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RELATION BETWEEN THE SPECIALIST AND THE PRACTITIONER *

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In this paper it will be assumed that we are dealing with real specialists, real practitioners, real patients. If the specialist is a quack, the family doctor a commercial fraud, and the patient an ignoramus, talk is of little avail. Under such circumstances there are no relations except those of dishonesty, greed and gullibility. Their very nature condemns them and makes argument unnecessary.

I wish at the outset to advance the proposition that in any discussion of the relation between specialist and general practitioner there is a third party to be considered, namely, the patient. Furthermore, his rights take precedence over those of the other two parties. In theory the correctness of this conception will be generally admitted; in practice it is often overlooked.

I take it that this committee, a committee on education, is more concerned with the question of the development and training of the specialist of the future than with questions of so-called medical ethics. I shall, therefore, omit as not germane to the subject as it may properly be brought before this body, any lengthy consideration of certain phases of medical conduct that concern specialist and practitioner, though such discussion might not improperly be indulged in under the caption assigned me. I may cite as examples the attitude of some family physicians who deny that the specialist has the right, except by the express consent of the family physician, to examine the ambulatory patient who of his own free will comes to the specialist for an expert opinion or treatment; also, the behavior of the specialist who at a consultation is more concerned about his own glory and his own large fee than he is for the feelings, reputation or fee of his colleague who has requested his help, or, on the other hand, the attitude of the practitioner who at the consultation is more exercised over his own reputation than over the welfare of the patient and who resents a frank expression of opinion, no matter how gently and tactfully it may be advanced, if in any way it seems to hint at a criticism of his diagnosis or his handling of the case. And then there is the matter of fees—the split fee, inherently wrong because it is secret and underhanded; the disproportion between the large, sometimes exorbitant fee of the specialist and the meager fee of the practitioner, the operator perhaps receiving for an hour's work, largely mechanical, as much as the practitioner receives for six months of the hardest kind of physical and mental drudgery.

These are live questions. They have a bearing on the present-day trend toward specialism. They often lead to a straining of the relations between these two classes of physicians; they are among the causes of the oft heard rancorous protest on the part of the practitioners against the smaller privileged class of specialists who seem to them to be reaching out more and more after the glory and the major portion of the financial returns, and who are now banding together in groups, corporation-like, in such a way as still further, with greater force because of greater mass, to bear down on the practitioner and to crush him dry of the privileges he regards as his due.

These features I shall not dwell on, but they must be remembered when we are planning to create a still higher type of specialist. No matter how lofty and altruistic our motives—and we know they are unselfish—we cannot afford to ignore the possible antagonism of irate practitioners who may unite to protect their real or fancied rights. There should be evolved some readjustment by which the practitioner who now feels that he is treated as of secondary importance may not have cause to complain that he is still further degraded. If the discussion of these questions can be lifted from the level of trade or business to that of profession, if the specialist will oftener put himself in the place of the family physician and vice versa, and if, above all the good of the patient—or call it the public if you prefer—is the prime consideration, many of the difficulties of conduct, ethics, fee, relative glory will disappear, and the solution of some of the problems involved in the development of specialists, with which problems this committee is to be occupied, will be comparatively simple.

Leaving the subject of the ethical relations of the practitioner and specialist, we may ask in the expressive language of the day, Why is a specialist? Also, What is a specialist and how is he to be made? Who is entitled to be so called? I offer but fragmentary and incomplete answers to these questions.

ESSENTIALS OF THE SPECIALIST

For a physician merely to announce that in the future he will limit his practice to a certain kind of disease does not suddenly transform him into a specialist. Exceptional knowledge or unusual technical skill are prerequisites. Many self-styled specialists do not possess these essentials.

Other things being equal, the best specialist is the one who develops from the general practitioner—I assume previous high-grade college degree, a service as an intern, a studious, progressive mental attitude during the years of practice. That men may begin to specialize

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from the day of graduation or even before graduation and become competent and successful is true. In many instances I regard such an early specialization as proper. An internship in, or better, a position on the attending staff of, a general hospital is a partial substitute for the years of practice; but here the knowledge of slight ailments, and of the beginnings of disease and their frequently slow progress is lacking; it is chiefly the serious illness and the terminal stage that are studied by the hospital physician. Sir James Mackenzie's strictures on the workers in the laboratory and the wards of the hospital are provincial and largely undeserved; but one must in the main agree with him in his encomium of the general practitioner. Without these years of general training, the specialist fails to understand the problems that vex the family physician. He lacks breadth of vision; he sees only tonsil, tooth, appendix, heart murmur, achylia or displaced uterus, and sees them unduly magnified; he is using the oil immersion lens before knowing the relation of parts that would be shown by a preliminary study with the lens of lower power. Sometimes, conscious of his limitations, yet desirous of being thorough and of escaping the charge of superficiality, he searches for causes and relations other than those directly associated with his own specialty; he strives to be broad visioned and up with the times. But the picture that he sees lacks background, perspective, light and shade; the figures in it are to him isolated and unrelated to each other; and without experience, his interpretations are strained, artificial and illogical. Without due proof, disease may be referred to pathologic conditions not causally related. In this way arise the fads of medicine and surgery, the needless sacrifice of teeth and tonsils, the operative correction of supposedly serious yet really trivial architectural defects in the pelvis, the whims about diet that are mistakenly regarded as the embodiment of physiologic principles, the routine use of remedial agents, be they drugs, vaccines or water cures, that are prescribed not only unscientifically but at times not innocuously.

That this type of specialist is far from ideal is clear. That—to apply our test of the greatest good to the patient—he fails to render a maximum of efficient service and is thus found wanting is also plain. What is needed is the analytic mind, the sane judgment of the wise man of experience. Knowledge comes, but wisdom lingers.

RELATION OF PRACTITIONER AND SPECIALIST

What is to be the relation of the practitioner and specialist in the future? We are in a transitional stage, the practitioner losing ground, those calling themselves specialists increasing in number and rapidly uniting into groups. With the enormous increase in the bulk of medical knowledge, the bewildering complexity of new facts in every line of medical work, the insistent demand for technical skill of a high order, the physician has perforce to concentrate on a single topic or on a few to avoid spreading himself out too thin. It is no more than justice that in difficult cases aid should be asked of others, often of several experts; and the economical, practical way of making such help available is by cooperation in groups. Group medicine in some form is to be given a trial; it should be. In just what form it will survive, who can say? Groups gathered about men of commanding personality, groups in private or semiprivate hospitals, groups connected with university hospitals or dispensaries, may all have their places. These types and various others have been well described by Dr. Leonard[1] of Duluth. Unless some working plan is devised by which patients of moderate means are to receive the benefit of the skill of specialists, the state may step in to see that they do receive it, and may step in in ways not altogether pleasing to the medical profession. Means should be devised by which the best interest of the public is conserved while the status of the physicians, and their rights as individuals and as a class, are protected. The plan recently set forth by Dr. Billings[2] is worth serious thought and has the very commendable feature that, while looking out for the interests of the patient and recognizing the necessity for specialists, it protects the rights of the practitioner.

There are dangers connected with group practice—danger that a machine-like routine instead of an individualist investigation may be made; danger that the results of the various technical examinations made by the individual members of the group may not be reviewed and correlated by some sane, masterful, judicial mind that will see that this assembled diagnosis is made up of parts well fitted and joined together; danger that the practice may be commercialized, that the group may become a profiteering corporation, and that the profession of medicine may yet further degenerate into a trade.

What will be the relation of the general practitioner to the group? Will he be in good standing with it? Will he be able to retain his position as family adviser to the patient who enters the portals of the group? Will he have rights in the group hospital? What will be his exact status in the community hospital? Is it possible that he may shrivel up into nothing more than a physician who makes a tentative diagnosis and who, like the examining room doctor in the hospital or the distributer in the dispensary, assigns the patient to the proper specialist or group?

Will there be a general practitioner? May he not finally become merely an emergency physician called in for minor ailments or when the specialist is not available, but not expected to treat the case of pneumonia or of chronic constipation, to operate on the patient with hernia or empyema, or to manage the case of eczema or give the arsphenamin? Indeed, in our larger cities this is already to a considerable degree his present position. Well-to-do or even poorer people go to Dr. A if they suspect appendicitis, to Dr. B if they fear tuberculosis, to Dr. C if they think it is the goiter that is causing trouble, to Dr. D with the baby. They have their list of supposed experts and, ignoring their family physician, their "ordinary doctor," as he is sometimes called, they go to the specialist, preferably the professor. Perhaps in the future they may go to Group A or B or C, the particular group chosen because of its reputation as surgically or medically skilful, as especially careful in examination, as moderate in charge, or as having a comfortable waiting room with pleasant outlook over the lake.

And the practitioner? Perhaps he will refer cases to this group for the diagnosis which, with his limited knowledge and facilities, he is unable to make. Perhaps—occasionally—the patient will be returned to him for treatment; or, sans teeth, sans tonsils, sans appendix, sans ovaries, sans bank account, the patient will return to have the physician resume his position; not

1. Leonard, V. N.: The Significance of Group Practice, J. A. M. A. 76: 421 (Feb. 12) 1921; Private Medical Practice in Its Relation to the Idea of Progress, abstr. ibid. 76: 731 (March 12) 1921.
2. Billings, Frank: The Future of Private Medical Practice, J. A. M. A. 76: 349 (Feb. 5) 1921.

the honored position once held by the family physician, but that of ordinary or emergency doctor, the doctor who responds to calls in the night, sews up the scalp wound, prescribes the tonic for worn out nerves and who, if he has winning ways with children and is not too high priced, may be allowed to vaccinate the family or pull the loosened milk teeth.

I do not believe such a future is necessary. If it comes to pass it is largely our fault. There is a place for the family adviser, and we must strive to make that position one of honor, dignity and remuneration. Details of any such plans I cannot give. The problem will to a great extent solve itself by a process of evolution. In fact, in some communities I think I see working out what I would call the practitioner-group system. Not housed in one office, but living in the same small town the practitioners, while independent, tacitly recognize that Dr. A is better qualified to do surgery, Dr. B knows more about children, Dr. C has the roentgen-ray outfit, and Dr. D has unusual information about neurology. Each has his families, each cares and cares well for all ordinary cases of sickness, each recognizes his own limitations and is free to call on his colleagues for help, or when necessary to advise the services of the specialist or groups of the city, or of the hospital in the larger town nearby. This is a retention of the family physician idea. The doctor does not lose his self-respect; he is at peace with his colleagues; he cooperates with the group of experts, and the best interests of the patient—the sensible ones who will take any advice—are conserved. If he does not regard it as beneath his dignity to take the temperature, or to help give a sponge bath or an enema; if he is willing to take the time to make a pelvic examination or to look at an ear drum, things which the older type of family physician used to do and do well, he will find his patients appreciative of his efforts to save them unnecessary expense for nurse or specialist.

TRAINING OF THE SPECIALIST

I wish to add as an appendix—which some of you may think is diseased and should be cut out—that there is need of caution in the advances we are striving to make in the training of specialists. This body is trying to lay down principles that shall guide in the creation of experts in various brances of medicine and surgery. May we not go too far? Do we stop to consider what some of our plans imply? Do we realize what the conditions we are imposing mean to one desiring to qualify as a specialist? Take the time element alone. He must have had at least two years of college work—some say three, some four—with inclusion of certain studies. He must take four years of general medical studies and one year as an intern. We prefer to have him serve for a few years as a general practitioner, and then we are asking him to drop out of practice, again go to school, to take three years of special work. How old will he be at this time? How much of his youthful enthusiasm will remain to him? Are we not forcing him to spend in preparation his most impressionable years, the years of initiative? When will he begin to do, to accomplish? And is all of this necessary or wise? Shall we have as good a product, one as able to serve the patient and the public? And are we not forcing the majority of those who will specialize into a condition of financial parasitism, relief from which will be followed by a reactionary greed for gain? Most boys must depend on their parents to put them through college and the medical school. Are we now to ask them for a longer period to be dependent on others for help? Will not proud, self-reliant men shun such a plan? May not many desirable men of moderate means be debarred?

These are questions that may be asked. To some of them I see fairly satisfactory answers; regarding others I am not at all clear. A partial answer is the one offered by the Mayo Clinic in its plan of paid fellows, residents and assistants. An answer that is much talked of and is generally unwelcome to the physician is the one involved in the increasing tendency toward paternalism of the state toward the medical profession.

Our medical curriculum may be modified and thus shorten the road to specialism. It may be wrong, it may be heresy to question the correctness of the position that our medical schools should be concerned with turning out only general practitioners. At the risk of reversing myself and contradicting much that I have said before about the evolution of the specialist from the practitioner, I venture the prediction that the time is not far distant when many of our medical undergraduates will to a certain extent be allowed to specialize before they receive their diplomas. The medical school will have to make this possible. It is done in our literary colleges today and in our technical schools. A few favored students in our medical schools are able to do it. The one argument that holds us back is the fetish of the general practitioner. No matter how much we lengthen the premedical course, no matter how much time and content are added to our undergraduate medical curriculum, we must forever be bound by the tradition that the college must turn out only general practitioners.

A practitioner is supposed to practice. He may be well versed in general principles and general knowledge, but the application must be to a specific case. Often this general knowledge enables him successfully to make this application. But modern medicine requires an unusual degree of technical skill, an immense mass of information if one is to do the best possible for the patient; and the fact is that no one man today can know much about all medical subjects; the human brain has not the capacity; and so our general practitioner is, after all, not really competent to treat in the best way all the patients who come to him for help. The telephone, automobile, electric and steam railways, hospitals of various types found even in our country towns, groups of specialists, make it easy to bring the patient to the specialist or the specialist to the patient. The old-fashioned work of the general practitioner is going, and his field of activity is being constantly more and more restricted. No one man, then, will be called on to practice in all branches of medicine as in the past, and if he tries to do this he will do it inefficiently, because it is a physical impossibility for one small head to carry all the new (with apologies to Goldsmith).

Why, therefore, may our medical schools not lay down certain fundamental requirements in anatomy, phyiology, chemistry, pathology, general medicine, general surgery, general clinical diagnosis, etc., courses that teach general principles, which courses must be mastered by all? But at the end of a certain time, perhaps two years or three years, grant some choice of work. There will still be retained the main courses for those planning general practice—and we can turn out a splendid type of general practitioner; there will be other courses or another grouping of courses for those who wish to specialize. Let me illustrate what I mean: At the end of his second or third year a student of 24 or 26 may have a definite idea as to the department of

medicine in which he chooses to work. He knows, for example, that he prefers general surgery, or internal medicine or dermatology or ophthalmology, and he is, or ought to be by that time, mature enough to know his own mind. Why, if he decides on ophthalmology, should he be required to take a course dealing with the special details of obstetrics, the measurements of the pelvis, the mechanism of occipitoposterior position, etc.? Why should he be required to master the technic of the operation for extirpation of the kidney, laceration of the perineum or amputation of the breast? Why should he be forced to learn formulas for the artificial feeding of infants of various ages or to spend days in the study of the stools in cases of ulcer of the duodenum, carcinoma of the bowel, amebic dysentery or mucous colitis? May he not more profitably be engaged for a portion of his time in studies with a direct bearing on his chosen work? He may thus shorten his time of graduate work for specialism by at least a year. Is there any vital objection to this? The same principle might be carried still farther back in our system of education, to our literary and scientific colleges and even, as has been suggested by good educators, to our high and grade schools. Instead of putting all students of medicine through the same mill and turning them out at the age, say of 27, with the stamp of general practitioners, may we not allow or even compel our undergraduates to do as is required in many general cultural courses in our literary colleges, to major in some subject or group of subjects especially in his last two years. He would still be a qualified practitioner, but he would have more than a mere outline of each of the many subjects included in our curriculums of today. In some subject or perhaps two he would by concentration become something of an expert; he is an embryo specialist, if you please. When he goes out into general practice he will be likely to continue his studies of this topic and to become perhaps the practitioner-specialist of his neighborhood. At any rate, he is a better general physician for knowing one subject thoroughly than because he knows all subjects only fairly well. Our bright students are doing this today. They help and do extra work in the pathologic laboratories, in the department of electrocardiography, or in the surgical clinics. They are specializing. This is done in many of our technical schools. Our schools of engineering have certain common required courses in English, foreign langauge, mathematics, physics, etc.; and then, branching out, stress for the one student electricity, for another chemistry, architecture or naval construction, depending on what branch of engineering he intends to pursue. Or they permit him, if he chooses, to take the all round mechanical engineering course, comparable to a general practitioner course.

These ideas are suggestive only. They may be ill-timed, crude and half-baked. I admit contradictions and inconsistencies.

SUMMARY

A paper is supposed to end with conclusions. But what is one to do who has not even in his own mind reached a satisfactory solution of the problems presented, who has not reached conclusions?

Briefly summarized, the thought running through this paper is that there is an inevitable and justifiable trend toward specialism in medicine. This committee is engaged in the laudable attempt to see that only those qualified shall be regarded as specialists. The creation of a class of approved specialists will serve to draw more sharply than ever the line between specialist and practitioner between which classes relations are already somewhat strained. It is necessary to proceed cautiously to be sure we do not set our standard for the specialist so high that we defeat our own purpose by shutting out many desirable men, that we do not create a type of superspecialist that will still further arouse the antagonism of the practitioner. In all our planning we must devote more time to a consideration of what should be done for the unfortunate practitioner. If he is doomed, what is to take his place? If he can be saved, how is his salvation to be wrought?

Furthermore, there is advanced the idea that while the primary function of the undergraduate medical school is to educate a high grade general practitioner, there are many students who may in their last year or two concentrate on some one subject, in reality begin to specialize. By so doing, they save time if they are to practice a specialty. If they do not specialize, they are better practitioners for knowing one subject unusually well.

And I trust there has been manifest in this paper the thought that whatever we plan for specialist or practitioner, it must never be forgotten that the interest that is paramount is that of the patient.

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BASAL METABOLISM DETERMINATIONS WITH THE ORIGINAL PORTABLE BENEDICT APPARTUS

AND A SIMPLIFIED METHOD OF CALCULATION

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The present widespread clinical interest in basal metabolism marks an epoch in the practical application of scientific methods to the elucidation of life phenomena in their relationship to disease. It places before the clinician, with very moderate effort, an exact measure of the "speed" with which the stream of life's chemism is being driven, and thereby reveals facts, the fascination of which is exceeded only by their clinical importance.

In the animal body, oxygen consumption is an accurate measure of the processes of combustion; and these processes fundamentally underlie all animal life phenomena. The physics of physiology can, therefore, be expressed in terms of oxidation, each liter of oxygen calculated at zero centigrade and sea level barometric pressure—760 mm. of mercury—being equivalent to a certain number of calories, which varies somewhat with the substance or substances undergoing oxidation: For example, when oxidizing glucose, its caloric value is 5; when oxidizing protein, it is 4.6,[1] etc.

The caloric value of oxygen, the exact knowledge of which is essential in the determination of basal metabolism, can be accurately calculated at any given time from the respiratory quotient, that is, the quotient of the carbon dioxid output divided by the oxygen consumption. Benedict found this average quotient very constant at about 0.82, after fasting overnight and resting one-half hour, and this corresponds to a caloric value of 4.825 for each liter of oxygen when its volume has been corrected to the standard conditions before mentioned. He has, therefore, assumed this value as

1. Sherman, H. C.: Chemistry of Food and Nutrition, New York, the Macmillan Company, 1916.

constant under the usual conditions for determining basal metabolism, that is, fasting and resting state.

Fortunately, the mechanics of respiration, the function of which is to supply the tissues with oxygen and remove from them carbon dioxid—the principal product of body combustion—lends itself very readily to this inquiry. It is only necessary to measure the quantity of oxygen consumed in a given period of time in order to have all the data required to calculate the heat production, which equals the "metabolism" of the body. Now, simple as this may seem to be, it was not until the advent of the Benedict [2] portable respiration apparatus that the measurement of the oxygen consumption became clinically applicable outside expensively equipped institutions. This apparatus, which has already been fully described in the literature, uses what is called the closed-circuit method, the patient breathing into and out of a closed receptacle; the oxygen consumed being determined by loss in the volume of gas, which, inasmuch as the carbon dioxid is absorbed by passing through soda lime and the nitrogen is unchanged, accurately represents the oxygen consumed. It is rather inconveniently portable,[3] although it can be readily moved from one part of a hospital, or office, to another.

As the result of an experience of about two years of constant use of this apparatus in general diagnostic work, this paper is written with these objects in view:

1. To summarize again briefly my conclusions on the general diagnostic value of basal metabolism determinations.

2. To consider further certain points concerning the original Benedict portable respiration apparatus in particular, with which all my work has been done.

3. To offer a new and simplified method of calculation, which makes optional the use of logarithms.

4. To consider certain criticism recently made [4] of this apparatus, which, if well founded, must be regarded as a serious indictment of work done with this style of apparatus.

1. GENERAL VALUE OF BASAL METABOLISM DETERMINATIONS

As stated in an earlier paper,[5] they are in my opinion indispensable in the differential diagnosis of a large group of cases, such as those tabulated in the paper [5] to which reference has just been made. These cases have some of the symptoms of thyrotoxicosis, but they may be due to entirely different causes. The entire endocrine system must, of course, be considered and weighed so far as our present imperfect knowledge will permit; but I am more and more convinced of the substantial correctness of the opinion recently expressed by Boothby [6] that in actual practice "at least 95 per cent. of all abnormally increased metabolic rates (either that of exophthalmic goiter or of thyroid adenoma) are due to hyperthyroidism if a febrile condition is eliminated by the thermometer."

It seems to me that a word of caution is needed at this time. A new and somewhat spectacular method of diagnosis has been placed before the profession, and the temptation, subconsciously, to commercialize its impressiveness is very great. Patients may inadvertently be given an impression, and thoughtless physicians, if there are such, may even share the impression, that a "mathematical diagnosis" has been made. Of course, nothing of the sort has been done.

An important biologic phenomenon has been made available for study by the clinician, and is to be considered by him as a part of the data with which the final diagnosis, which is always a complex clinical judgment, is to be constructed. It should take its place without undue "fuss or feathers" by the side of the fever thermometer, cardiographic apparatus, etc., to assist in furnishing the clinician with a broader basis of fact upon which to rest his working clinical formula. An increase of metabolic rate up to 40 or 50 per cent. on a single observation may be nearly always regarded as an indictment of the thyroid, but whether or not the thyroid should be convicted of playing the major rôle in the pathology of any given case must depend on other factors. Overstimulation of the thyroid, to an extent sufficient to produce this result, at least transiently, may be caused by other primary pathologic conditions, such as focal infections, the existence of which it is the duty of the clinician to determine. Their removal may "cure" a mild hyperthyroidism; but such a result would be very doubtful with extreme increases in basal metabolic rates, for example, up to from 75 to 100 per cent. In such cases, the thyroid gland may at once be regarded as playing the major rôle. Such cases are usually so plain without the determination of the metabolic rate that he who runs may read, and, therefore, in this type of case, metabolism determinations may be said to be of somewhat less importance, at least for actual recognition of thyroid disease, although still important as a scientifically accurate measure of its severity and progress. In the group of cases with slight or moderate metabolic perversions and in which these data are most needed, they are least decisive.

It will be strange if commercial "enterprise" does not seize on the opportunity afforded by the increasing recognition of this method of diagnosis to foist on the profession crude and inaccurate methods, which do not bear the stamp of high scientific approval. The accuracy of the Benedict apparatus is certified by men of established reputation. The oxygen consumption is measured with great accuracy after careful calibration of the spirometer bell; and certainly nothing less accurate than this should be accepted by diagnosticians having a due regard for as great a degree of scientific accuracy as is practical or necessary in a clinical method.

2. RELIABILITY OF THE BENEDICT APPARATUS

Relative to the reliability of the Benedict apparatus in giving dependable results in the determination of the metabolic rate, there is no doubt, in my opinion, that it comes safely within the negligible margin of error permissible in clinical tests. In the first place, we have the reputation of Benedict as a well known scientific investigator, thoroughly familiar with the requirements of such a test. In fact, his work makes up a large part of the history of the subject. When, therefore, he offers this method to the clinician as a practical substitute for the unpractical methods heretofore in use, it can be confidently regarded as a considerable guarantee that the results compare sufficiently closely with the more exact methods of gas analysis to bring it easily within the range of dependability in clinical diagnosis.

2. Benedict, F. G.: A Portable Respiration Apparatus for Clinical Use, Boston M. & S. J. **178**: 667 (May 16) 1918.

3. A much more portable apparatus with the same general construction, which is not intended for measuring the carbon dioxid output, as is the original apparatus, is described by Benedict, F. G., and Collins, W. E.: Boston M. & S. J. **183**: 449 (Oct. 14) 1920.

4. Boothby, W. M., and Sandiford, I.: Laboratory Manual of the Technic of Basal Metabolic Rate Determinations, Philadelphia, W. B. Saunders Company, 1920.

5. McCaskey, G. W.: Basal Metabolism Determinations in General Internal Diagnosis, J. A. M. A. **74**: 928 (April 3) 1920.

6. Boothby, W. M.: The Fundamental Classification of Disease by the Basal Metabolic Rate, J. A. M. A. **76**: 84 (Jan. 8) 1921.

In fact, Benedict and Collins,[7] as a result of an "extensive series of well agreeing comparison tests" made by Benedict, Miles, Roth and Smith[8] with a group of young men, specifically say: "Therefore, we can assume that the *original portable apparatus gives results, particularly for oxygen, fully as satisfactory as any of the older and more complicated types of respiration apparatus.*" This conclusion is supported by another similar series of observations on seventeen healthy medical students made by Hendry, Carpenter and Emmes.[9]

These comparisons were made between the original portable apparatus and the one later described, which has been modified to meet the requirements of greater portability; and the results show slight variations, no greater than those obtained in the same person in two observations made close together. Variations in heat production as large as this might easily occur in the interval between two tests, even when made close together, as a result of slight nervousness, variations in respiratory or circulatory mechanisms, etc. In view of these observations and conclusions of Benedict and his associates, we need have no hesitation in accepting these methods as entirely trustworthy, provided detailed attention has been given to all the precautions and safeguards laid down by Benedict. These precautions need not be fully considered here, as they are found in the original paper by Benedict.[8] They include avoidance of leakage in the apparatus, or around the mouthpiece, or the mask, or through the nose; avoidance of restlessness during the half-hour rest period preceding the test, as well as during the test period; abstinence from food or stimulants within from twelve to fourteen hours before the test; failure strictly to retain a recumbent position during the rest period; inaccurate measurement of duration of the observation period, beginning and stopping at the end of a normal expiration, etc.

The accurate measurement of oxygen consumption and the correct calculation of the total calories per square meter per hour, together with the comparison of the result obtained with the normal standard for the age and sex of the individual, are the main additional points involved in the question of accuracy. The calibration of the spirometer bell, which contains oxygen, makes it possible to measure the exact loss of volume during the observation, and this equals the oxygen consumption.

3. CALCULATION

The metabolic rate is determined from the measurement of the oxygen consumption over a given period of time—say, ten or fifteen minutes. The calculations are a trifle cumbersome and have been made by the use of logarithms, a "weapon" with which clinicians, as a rule, are not very familiar. In following the work of my clinical assistants in making these basal metabolism determinations in selected cases in routine diagnostic work, it seemed to me both possible and desirable to devise a method of calculation which would meet these indications:

1. To make the use of logarithms entirely optional with the clinician.

2. To make the different steps of the calculation logically clear, so that, among other reasons, a mental check might be kept on the procedure throughout.

3. To shorten the process, at least to a slight extent, by eliminating one or two intermediate calculations by a "short cut."

TABLE 1.—PERCENTAGE OF OBSERVED VOLUME WHICH CORRESPONDS TO THE CORRECTED VOLUME*

Temperature, Centigrade	Barometric Pressure in Millimeters of Mercury														
	700	704	708	712	716	720	724	728	732	736	740	744	748	752	756	760
15	87.30	87.80	88.30	88.80	89.30	89.80	90.30	90.79	91.29	91.79	92.29	92.79	93.29	93.79	94.28	94.78
16	87.00	87.49	87.99	88.49	88.99	89.48	89.98	90.48	90.97	91.47	91.97	92.47	92.96	93.46	93.96	94.45
17	86.70	87.19	87.69	88.18	88.68	89.17	89.67	90.17	90.66	91.16	91.65	92.15	92.64	93.14	93.63	94.13
18	86.40	86.89	87.39	87.88	88.38	88.87	89.36	89.85	90.35	90.84	91.34	91.83	92.32	92.82	93.31	93.80
19	86.10	86.59	87.09	87.58	88.07	88.56	89.06	89.55	90.04	90.52	91.02	91.51	92.01	92.50	92.99	93.48
20	85.81	86.30	86.79	87.28	87.77	88.26	88.75	89.24	89.73	90.22	90.71	91.20	91.69	92.18	92.67	93.16
21	85.52	86.00	86.49	86.98	87.47	87.96	88.45	88.94	89.43	89.91	90.40	90.89	91.38	91.87	92.36	92.85
22	85.23	85.71	86.20	86.69	87.17	87.66	88.15	88.64	89.12	89.61	90.10	90.58	91.07	91.56	92.04	92.53
23	84.94	85.42	85.91	86.39	86.88	87.36	87.85	88.34	88.82	89.31	89.79	90.28	90.76	91.25	91.73	92.22
24	84.65	85.14	85.62	86.10	86.58	87.07	87.55	88.04	88.52	89.00	89.49	89.97	90.45	90.94	91.42	91.90
25	84.37	84.85	85.33	85.81	86.29	86.78	87.26	87.74	88.22	88.71	89.19	89.67	90.15	90.63	91.11	91.59
26	84.08	84.56	85.04	85.52	86.00	86.48	86.97	87.45	87.93	88.41	88.89	89.37	89.85	90.33	90.81	91.29
27	83.80	84.28	84.76	85.24	85.72	86.20	86.68	87.15	87.63	88.11	88.59	89.07	89.55	90.03	90.51	90.99
28	83.52	84.00	84.48	84.96	85.43	85.91	86.39	86.86	87.34	87.82	88.30	88.77	89.25	89.73	90.20	90.68
29	83.25	83.73	84.20	84.67	85.15	85.62	86.10	86.58	87.05	87.53	88.00	88.48	88.95	89.43	89.91	90.38
30	82.96	83.44	83.92	84.39	84.87	85.34	85.82	86.29	86.76	87.24	87.71	88.19	88.66	89.14	89.61	90.08

The figures represent percentages of the observed volume, which correspond to the corrected volume. No other corrections are needed with the portable Benedict apparatus.

* Table to be used for the correction of the volume of oxygen gas from the temperature centigrade given in left hand column and barometric pressure in millimeters of mercury given at the head of each column to 0 C. and 760 mm. of mercury.

The first step in the calculation is to observe the exact number of cubic centimeters of oxygen consumed in a certain number of seconds (covering the entire period of the observation), preferably in two or three shorter periods, each to be checked against the other. The range of temperature of the contents of the spirometer bell is noted by reading a thermometer, preferably centigrade, projecting from it, at the beginning and at the end of the observation. For each rise of 1 degree C., 1.8 c.c. is added to the "observed" volume (Benedict). The mean temperature is then determined, being that temperature which is midway between the two extremes. This temperature, together with the barometric pressure expressed in millimeters of mercury, are the two essential factors for carrying out the next step in the calculation, the reduction of the "observed volume" to the so-called "corrected volume," which is the volume it would have at 760 mm. of mercury, and 0 C.

Instead of making this correction by logarithms, as heretofore advised, a table has been constructed, covering the most usual ranges of barometric pressure and temperature. Table 1 indicates that percentage of the "observed volume" which corresponds to the "corrected volume." It is, therefore, necessary only to multiply the "observed volume," either with or without logarithms, by that percentage in the table (which corre-

7. Benedict, F. G., and Collins, W. E.: A Clinical Apparatus for Measuring Basal Metabolism, Boston M. & S. J. 183: 449 (Oct. 14) 1920.

8. Benedict, Miles, Roth and Smith: Pub. 280, Carnegie Inst., 1919, quoted by Benedict and Collins, Footnote 7.

9. Hendry, M. F.; Carpenter, T. M., and Emmes, L. E.: Gaseous Exchange with Unpracticed Subjects and Two Respiration Apparatus Employing Three Breathing Appliances, Boston M. & S. J. 181: 285, 334, 360 (Sept. 4, 11 and 18) 1919.

sponds to the two factors of temperature and pressure just indicated) and all necessary corrections are made.

This table has been computed from data obtained from a work on chemical calculations.[10] The range selected is from 700 to 760 mm. of mercury, barometric pressure, and from 15 to 30 C. These percentages are obtained by means of the formula for the reduction of gas volume to 0 C. and 760 mm., using logarithms in the working out of Charles' law for this reduction. The correction for vapor tension has been ignored. It is so small that it is ridiculous in a clinical calculation with normal fluctuations as wide as those found in basal metabolism. Benedict [11] says that the air passing from the soda lime to the mouthpiece is only 5 per cent. saturated, because of the very rapid "ventilation rate," all of the contents of the spirometer bell being driven through the soda lime about three times a minute.

By common consent the metabolic rate is expressed in calories per hour per square meter of body surface. From the data already obtained, we deduce the total oxygen consumption per hour. While this can be done in several ways, perhaps as good a way as any is to divide the corrected volume of oxygen consumed by the number of seconds in the period of observation, and to multiply this by 3,600, the number of seconds in an hour, and divide by 1,000, the result being the volume of oxygen expressed in liters. Multiplying this by 4.825 gives the total calories of heat production during one hour, or the "metabolic rate." From this the "rate" per square meter is easily obtained by dividing by the body surface expressed in square meters as obtained from the "height-weight" chart of Du Bois [12] and the percentage, if any, above or below the assumed normal standards can be quickly calculated.

Perhaps it may be best illustrated by an actual case record:

CASE 2200.—A woman, aged 46; weight, 38.4 kg.; height, 165 cm.; body surface, obtained from Du Bois' chart, 1.38 square meters, was the subject. The observed volume of oxygen consumed was 2,100 c.c. in 500 seconds. The temperature of the spirometer bell at the beginning of the observation was 20 C., at the close, 24 C. The mean temperature was 22 C.; the rise during observation, 4 C., and the corrected barometric reading, 745 mm. of mercury. For rise of temperature, according to Benedict, 7 c.c. was added, making the total volume 2,107 c.c.

Now, we find on consulting the table that at a temperature of 22 C. and barometric pressure of 745, the corrected volume would be 90.7 per cent. of the observed volume, which equals 1,911 c.c. Dividing this amount by 500, the number of seconds, and carrying the result to two decimals, we find the oxygen consumption to be 3.82 c.c. per second. This must be multiplied by 3,600, which gives the number of cubic centimeters per hour, and the result divided by 1,000 gives the number of liters per hour, which is 13.75. To get the number of calories per hour, we must multiply by 4.825, the caloric value of a liter of oxygen at the accepted respiratory quotient of 0.82. This gives 66.34 calories per hour. Dividing this by the body surface, expressed in square meters, 1.38, we obtain 48.0 calories per square meter per hour. The normal for her age (Table 2) is 36; and we find that 48 calories is 33⅓ per cent. above the normal, or + 33⅓ per cent., which is the final result.

In order to simplify still further, a constant has been determined for a hypothetical case in which exactly 1 c.c. of oxygen was consumed per second, and in which the body surface was exactly 1 square meter. Such a person would have a metabolic rate of 17.37 calories per square meter per hour. The reason for determining this constant, 17.37, was to make the calculation from a basis of unity in regard to both oxygen consumption per second and square meters of body surface. This furnishes a sort of mental check of the entire procedure, as it is only necessary to multiply this constant by the number of cubic centimeters of oxygen consumed per second and dividing this by the body surface. We may now condense the entire calculation in the case heretofore cited to this:

$$\frac{2107 \times 0.907 \times 17.37}{500 \times 1.38} = 48,$$

the number of calories per square meter per hour, which is found to be as heretofore indicated, 33⅓ per cent. above normal for the individual.

As already stated, logarithms can be used with this percentage table, if so desired. The calculation by logarithms in the case just cited would be made thus:

Log. of 2107	3.32366	
Log. of 90.7%	—1.95761	
Log. of 17.37	1.23980	
Sum of these logs	4.52107	
Log. of 500	2.69897	
Log. of 1.38	.13988	2.83885
		1.68222 difference, or 48.1 calories

TABLE 2.—AVERAGE NORMAL CALORIES PER SQUARE METER PER HOUR FOR DIFFERENT AGES AND SEXES*

Age, Years	Calories	
	Males	Females
14-16	46.0	43.0
16-18	43.0	40.0
18-30	41.0	38.0
30-30	39.5	37.0
30-40	38.5	36.5
40-50	38.5	36.0
50-60	37.5	35.0
60-70	36.5	34.0
70-80	35.5	33.0

* Published by Aub and Du Bois and given in the manual by Boothby and Sandiford.[4]

4. CRITICISMS OF THE BENEDICT APPARATUS

In a recent brochure, Boothby and Sandiford,[4] in discussing the "closed circuit" method, of course, with the Benedict apparatus especially in mind, made the following statement: "The chief objection to the apparatus for clinical work is the fact that it cannot be cleaned, and the patient is exposed to the serious danger of infection by rebreathing contaminated air." Such a statement, coming from what is undoubtedly the largest basal metabolism clinic in the world, demands full consideration. If it is well founded, it raises a fair question as to whether or not we are justified in subjecting our patients to such risks. What are the facts?

In regard to the rebreathing of air remaining in the apparatus from previous patients, it can be said at once that such a thing can easily be made impossible. The spirometer bell has a capacity of 9,000 c.c when emptied as completely as possible by pushing out the residue of gas remaining at the close of an observation; it can be refilled with room air by closing the valves in the breathing tubes and opening the cock through which the oxygen gas is introduced. If then, the valves are opened and the oxygen cock closed, and the bell forced down, 7,000 c.c. of air is forced through the breathing tubes, sweeping out all the air in the spirometer bell and breathing tubes. This can be done twice, although it is probably entirely unnecessary. It is, therefore, perfectly obvious that in a few minutes,

10. Van Nostrand's Chemical Annual, New York, D. Van Nostrand Company, 1907.
11. Benedict, F. G.: Notes on the Use of the Portable Respiration Apparatus, Boston M. & S. J. 182:243 (March 4) 1920.
12. Du Bois, Delafield, and Du Bois, E. F.: A Formula to Estimate the Approximate Surface Area if Height and Weight Be Known, Arch. Int. Med. 17:863 (June) 1916.

every vestige of residual air left in the apparatus by a previous patient can be completely removed. It, therefore, cannot be rebreathed.

It is impossible for the patient to expire directly back into the tube carrying the purified air from the soda lime to the mouthpiece because of the strong ventilation current forced through by the motor. This is more than 20 liters per minute and is, therefore, many times greater than the tidal volume of respiration. This "ventilation current," excepting that which is inspired by the patient, is returned to the spirometer bell, completing the circuit again through the soda lime. As just indicated, the volume of this current each minute is from three to four times the contents (which are 7 liters) of the spirometer bell. The patient cannot, therefore, rebreathe even his own air until it has passed through this "circuit."

In view of these facts, it would seem that the only possible source of danger to subsequent patients would be the deposit of infectious material by an explosive expiration or cough in some part of the expiratory circuit leading to the spirometer bell. That part of the tube leading from the mouthpiece to the right angle bend just beyond the valve, and, of course, including the latter, can be quickly cleaned by suitable brushes and an antiseptic alkaline solution. The possibility of carrying particulate germ-laden material beyond this point is questionable; and its conversion, under the prevailing conditions of moisture, into "floating matter" which might be carried around the circuit through the spirometer bell and through the filtering mass of soda lime, may be fairly said to be impossible. So far as the part coming in direct contact with the patient is concerned, that is, the mouthpiece or the mask, it would seem that the mouthpiece which is used in the Benedict apparatus, although the mask can be used, can be more completely sterilized by boiling than can the mask by washing. We may, therefore, eliminate the mouthpiece itself as a possible source of danger. Finally, it seems perfectly obvious in view of these facts that with the same precautions that are obligatory under all similar technical conditions there is perfect safety from accidental infection.

Taking everything into consideration, it seems to me that the small portable closed-circuit apparatus is the only practical thing for the clinician to use, especially if basal metabolism determinations are to have the wide clinical application that their importance demands. This choice can be made without regret, in view of the fact that its accuracy, especially in determining the oxygen consumption, according to the unqualified statement of Benedict and Collins,[7] compares favorably with that of the larger apparatus requiring gas analysis, and, in view of the further fact, that with suitable precaution it is absolutely free from the danger of communicating infection from one individual to another. In fact, for most clinicians, this type of apparatus alone is possible. No one doubts the somewhat greater accuracy of gas analysis, but after all, even the latter is not absolutely accurate. The margin of error is presumably somewhat smaller, but Boothby and Sandiford [4] ignore an error up to 0.06 per cent. for oxygen in check observations. The same comparison may be made between an ordinary fever thermometer which will register temperature within 0.1 degree F. and an electrothermal apparatus which will give readings of 0.01 degree or less. However interesting or even necessary such minute accuracy may be in certain scientific investigations, it has not sufficient value in clinical diagnosis to justify the "handicap" which such methods would impose.

Basal metabolism, like most other physiologic processes, has normal variations which concern the physiologist more than the clinician, although the latter must recognize them in order not to be misled by them. If a clinical method gives results which are reliably well within the range of these normal variations, it meets the requirements of clinical diagnosis.

The case is a little different with a large investigative clinic like that of the Mayos, with practically unlimited facilities. The foundation of the future exact science of endocrinology, for which we are hoping, is being laid on an unprecedented scale. This is a great contribution to medical science, and Boothby and Sandiford have done wisely in making the data of this enormous clinical material (at present about 10,000 observations a year) as accurate as the present state of applied science makes possible. While these minute variations must be regarded as at present clinically negligible, there are two reasons why they should be made as small as possible within the practical limits of clinical methods. The first reason is that there is a real danger, as already pointed out,[4] that in the widespread application of basal metabolism determinations enough grossly careless or incompetent work may be done to discredit this diagnostic method. The second reason is that in dealing with borderline cases, the importance of which will probably greatly increase with increasing knowledge and experience, small errors will play an apparently large and certainly confusing rôle.

We cannot, at present, interpret these smaller variations because of the individual variations of the "norm" of the basal metabolic rate. This is quite constant for each normal individual, changing with age, and possibly seasonal and climatic conditions. By common consent, this variation of individual "norms" of the basal metabolic rate extends 10 per cent. above and 10 per cent. below the assumed "standards," which are only averages for the different decades of life.

SUMMARY

The value of basal metabolism determinations in proving the pathogenic rôle of thyroid hyperactivity has been confirmed by additional experience. Probably more than 90 per cent. of all cases showing marked increase in metabolic rate are due to hyperthyroidism.[6] Other endocrine glands play a small, subordinate rôle.

There is necessity for a warning against "subconsciously commercializing" the impressiveness of the method and the foisting on the profession of crude and inaccurate methods, by commercial "enterprise," which would inevitably bring discredit on this means of diagnosis.[4]

The accuracy of the Benedict apparatus has been proved, by ample tests, to be substantially the same as the more complicated apparatus requiring gas analysis.[13]

A new and simplified method of calculation is offered involving the use of a percentage table with which logarithms can be used if so desired, and the determination of a "constant," which materially shortens the process.

Certain criticisms relative to the dangers of infection in the use of such an apparatus are considered. It is shown that by taking certain precautions which are obvious and obligatory in all medical and surgical work involving such questions there is no danger whatever from this source.

407 West Main Street.

13. Footnotes 7 and 9.

RURAL HEALTH CENTERS AS AIDS TO GENERAL PRACTITIONERS *

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As the nineteenth century drew toward its close, methods of diagnosis gradually changed; and with these changes there came both advantages and disadvantages to the medical profession. If one goes over the advances made by the profession in this country during the first three quarters of the nineteenth century, he will be struck by the great number of valuable contributions made by physicians living in rural and isolated communities. I shall recall only a few of the most striking of these.

EARLY ACHIEVEMENTS OF RURAL PHYSICIANS

In 1806, Mann and Danielson, at Medfield, Mass., having under their care cases the diagnosis of which was doubtful, had the wisdom to make necropsies. This procedure led to the recognition of the fact that these cases were not typhus fever, as the necropsies showed a purulent inflammatory condition of the meninges, lesions which are not present in typhus fever. In this way it happened that one year after the first observations on cerebrospinal meningitis made in Geneva, Switzerland, and with no knowledge of the Swiss report, two village doctors in Massachusetts demonstrated beyond a doubt that there exists a disease whose essential and characteristic lesions are located in the meninges.

The report of observations and necropsies made at Medfield was published and evidently read and studied by the country doctors throughout the land. In 1807, Fish reported a similar epidemic at Hartford, Conn., and this was followed in the next year by a report by Arnell, of Orange County, New York. By 1810 the disease was so widely distributed and so plainly recognized throughout New England that the Massachusetts State Medical Society appointed a commission to investigate and report. The result of the labors of this committee, however, added but little of value to what the country doctors had already recorded. In 1811, North gathered together all the literature on the subject and published his now classical monograph on "spotted fever," in which he included all the literature up to that time.

Mann, the medical historian of the War of 1812, gives a vivid picture of the diseases that existed in the cantonments of that time, dwelling especially upon bronchopneumonia and spotted fever. One who reads these interesting and valuable records will recognize the fact that the medical condition of the cantonments of 1812 were but miniature pictures of what occurred in our larger camps in 1917-1918, with bronchopneumonia most prevalent, and cerebrospinal meningitis causing the greatest case mortality. Year by year, reports came from country doctors located in every state in the union. Some of the most notable of these contributions came from Dunbar of Winchester, Va.; Wilson of New Hampshire; Utley of Lyme, Conn.; Kercheval of Bardstown, Ky.; Bascome of Granville, N. Y.; Vaughan of Hallowel, Maine; Hereford of Middlebury, Va.; Davis of Columbia, S. C.; Davis of Milledgeville, Ga.; Kerr of Natchez, Miss.; Gallup of Vermont; Miner of Middletown, Conn.; McCoy of Clark County, Illinois; Love of Louisiana; Ames of Montgomery, Ala., and various other widely scattered village doctors. I have gone quite thoroughly through the literature of cerebrospinal meningitis in this country during the first half of the nineteenth century, and if there was a contribution made to this subject by a physician living in a town of more than 10,000 inhabitants I have failed to find it. It is worthy of note that McCoy of Clark County, Illinois, made necropsies of his cases and suggested that the disease be designated "cerebrospinal arachnitis," a name quite appropriate.

The early history of poliomyelitis in this country runs almost parallel to that of cerebrospinal meningitis. The first suggestion of its existence within the limits of the United States came from Colmer of the Parish of West Feliciana in Louisiana, and from that time up to the close of the nineteenth century, or near its close, this disease was regarded as existing only in rural communities. It is not found in the vital statistics of the city of New York until 1907, and metropolitan physicians are inclined to state that it did not exist in that city up to or near that time. However, I find that the records of the New York Orthopedic Hospital show that patients with deformities from this disease had been admitted to that institution for at least ten years prior to that time.

The splendid, painstaking and scientific work done by William Beaumont on the Island of Mackinac in the then wilderness of the territory of Michigan has been ever since a striking instance of what an energetic man may do under adverse conditions. I have been permitted by the Surgeon-General to read all the correspondence between his office and Beaumont during that time. These letters are full of repeated requests for books and facilities with which to carry on the work. Fortunately, the Surgeon-General at that time appreciated Beaumont and his researches and supplied him from time to time with books not only in English but also in foreign languages, and by some means Beaumont was able to read or have read to him these volumes. The stories of Ephraim McDowell and the first ovariotomy, of Marion Sims, in Montgomery, Ala., and his solution of the riddle of vesicovaginal fistula, of Long of Georgia, and his operation under anesthesia, and many others who might be mentioned, are tributes to the isolated doctor of the first half of the nineteenth century; indeed, were we to take from the history of medicine in the first half of the nineteenth century in this country the contributions made by village doctors we would rob it of half its honor and glory.

FACILITIES FOR DIAGNOSIS AND TREATMENT

I have recalled the foregoing instances to your memory, not for the purpose of unduly lauding the village doctor or unduly decrying his metropolitan confrères, but for the purpose of placing before you the clear distinction between the diagnostic facilities of that time and those of the present. We may speak of the old and the new eras. In the old, every physician carried within himself his whole armamentarium. The use of the test tube, the microscope and the roentgen ray, as aids to diagnosis, at that time lay in the future. Medical books were rare, but they could be obtained, and evidently were read as intelligently by the country doctor as by his urban brother. The great medical men of that era were those who were posted in the literature of medicine, were clear thinkers, and skilful practitioners, it mattered not whether they lived in small or densely populated communities. About thirty or forty years ago all this was changed, and the change was largely

* Read before the Annual Congress on Medical Education, Licensure, Hospitals and Public Health, Chicago, March 16, 1921.

due to the labors, researches and discoveries of the village doctor of the past. In the new era, the recent medical graduate needs a library which he cannot purchase, a laboratory which he cannot build, an equipment which is beyond his power of acquiring; consequently, he must attach himself to some medical school, city hospital, become an assistant in some research institution, or serve as an underling in some diagnostic laboratory. I have not had the time to go through the medical directory and ascertain the exact figures, but I am quite sure it is safe to say that the average age of practitioners in cities and villages of less than 25,000 inhabitants is past the meridian of life. This condition certainly is unfortunte for both the physician and the patient.

Having seen how the rural physician in the new era is handicapped by lack of diagnostic and treatment facilities, we now turn to the effect that this has had upon his patients. A volume of statistical evidence might be written to show that within the last twenty years the death rate from all causes in the rural districts has not materially decreased, while that in urban centers has greatly diminished. It is impossible to obtain any accurate figures concerning the death rates in rural communities before the year 1900. At that time the registration area in this country included Connecticut, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, Vermont and the District of Columbia. In the year 1900 the annual death rate in the cities in these states was 17.4 per thousand, while in the rural districts it was 14.1; in other words, residence in cities at that time was more hazardous to life than residence in rural communities. For every thousand inhabitants, 3.3 more died in the city compared with the country. By 1917 the annual death rate in the cities in the original registration states had fallen 2.3 per thousand, while the death rate in the rural districts had increased by 0.6 per thousand.

These figures are conservative, and it should be noted that among the cities included in this list is Washington with its very large proportion of negro inhabitants. In New York City from 1900 to 1917 the annual death rate per thousand fell 5.3, while in the state of New York, including New York City, it fell only 2.4. The greater decrease in the death rate in urban communities may be shown by comparison of the death rates in the different boroughs in the city of New York. In 1901 the death rate in Richmond Borough was 19 per thousand, while in 1917 it was 17.7, a decrease of 1.3; in 1901 the death rate in Manhattan was 19.5 and in 1917 it was 13.3; a decrease of 6.2. To those who believe that rural districts are to be brought on a par with urban communities, so far as life saving is concerned, by securing for the former health officers, I desire to call attention to these figures. Richmond Borough and Manhattan are under the same health commissioner. In the rural borough from 1900 to 1917 the reduction in death rate was 1.3, while in densely crowded Manhattan the reduction was 6.2

Were I inclined to go into the comparative death rates in city and in country from specific diseases, I could present more telling figures. The death rate from diphtheria has been greatly reduced in the last twenty years in our larger cities, while from time to time in many country places, villages and small cities the death rate has been higher than it was in preantitoxin days. I do not think it desirable to collect a great mass of figures on this point. Any one who desires to do so may study the vital statistics of our country, and it will be plainly patent that within the last twenty years the line representing rural death rate, which started below that representing urban death rate, has ascended and, in many localities at least, has crossed and now stands above the line representing the urban death rate. There is, therefore, ample justification for both the rural physician and his patient to demand for themselves better facilities for diagnosis and treatment.

NEEDS OF PHYSICIAN AND PATIENT

In order to be as brief and as clear as possible, and at the same time to make statements which may be discussed, I shall formulate my ideas as to the present needs of the medical profession in this country as follows:

1. Every legally qualified physician in the United States, so far as possible, should have at his service every scientific facility essential to make a correct diagnosis. This is desirable not only for the physician, but for every patient he treats. It is therefore, a matter in which both the profession and the public are interested.

2. Every practicing physician needs, in order that he may render the most efficient service to his clientele, a large well-selected library, including books of reference and current journals. His needs in this direction are so large and so costly that no recent graduate can afford to secure them from his own resources. They, therefore, must be made available in some other way.

3. Every physician needs the aid of the chemist, the bacteriologist, and the roentgen-ray operator in his diagnostic work. These facilities can be supplied the young practitioner from his own resources only when he has private wealth or when he is fortunate enough to have a large and wealthy patronage. This can happen only in exceptional cases, and the average practitioner cannot hope to be so fortunately situated.

4. There must be a minimum of interference with the relation which has so long existed between the physician and his patient and which, on the whole, has been so satisfactory to both. The patient must have the right to select his physician, and the physician must have the right to study and prescribe for his patient as he sees fit. The pecuniary reward that comes to the physician must be determined between himself and the patient. There must be no state regulation in these matters. The panel system, as employed in England, is good for neither physician nor patient. There must be no state appointed doctors to administer to the needs of those who are able to pay medical fees.

5. In armies it is necessary to have medical officers, and those over whom they are placed must accept the service of such medical officers whether they like it or not. We admit that this is essential in military organizations, but we believe that such a practice would be harmful in civil life and would lead to deterioration on the part of medical men and to discontent on the part of those whom they would serve.

6. I believe that any unnecessary interference with the voluntary and private relations existing between physician and patient would be detrimental to both.

HOW THESE DESIDERATA MAY BEST BE SERVED

Having stated my views in regard to the needs of the profession and the best interests of the patient as clearly and as briefly as I possibly can, I now proceed to present, in like condensed form, my ideas as to how

these desiderata can best be secured. In order not to confuse the statements bearing on these two points, I shall continue to number the paragraphs.

7. Every community, the boundaries of which may or may not be determined by state, county, municipal or township lines, should have the authority, on a majority vote of its citizens, to build, equip and maintain a community hospital.

8. This community hospital may or may not be located in close proximity to the tuberculosis hospital, which each county in most of the states is now authorized to build. I think that the tuberculosis hospital and the general hospital should be under the same management, but there may be differences of opinion concerning this, and at any rate it is not a matter of great importance.

9. Authority to build and maintain such community hospitals may be secured by an enabling act, just as the authority to build and maintain tuberculosis hospitals has been obtained. Sixteen states have already enacted some kind of an enabling act, modeled largely on the Iowa law.[1] Dr. Sampson will tell you how the law has worked in that state. Instead of a general enabling act covering the whole state, any community might present a bill to the legislature, calling for such an act, applicable to that community only. I am told that in certain states the boards of supervisors have, without any such law, gone ahead and built community hospitals of this kind.

10. The community hospital should start with at least one bed for every 500 inhabitants of the district served. In my opinion, it would be best to have a general hospital consisting solely of single rooms, though small wards might be deemed best. In addition to the general hospital and as part of the same building, there should be an operating room, a lying-in room, and bacteriologic, chemical and roentgen-ray laboratories; also quarters for nurses, matron and other administrative officers, and by all means a library, with ample reading room.

11. The community hospital should be managed by a board of from three to five, preferably elected by the people, though this board might be selected by the county supervisors or appointed by some other local authority. Such community hospitals might receive some support from state funds. This may be necessary in sparsely settled districts, but I think it should be avoided whenever possible. I believe most heartily in local self-government so far as it can be secured—that each community should pay for and control its own institutions. The hospital board would, of course, have the right to buy or rent property and accept donations.

12. Every legally qualified physician in the community should have the right to utilize this hospital, its laboratories and its library. He could bring to the hospital and there treat any of his patients, maintaining at all times between himself and the patient the privileges, rights and amenities that exist between a private practitioner and his patient. The hospital should make charge to the patient for such use as he has made of the hospital and its laboratories, but should have no concern with the pecuniary affairs between physician and patient.

13. The community hospital should be a place where each physician in the community can find all the facilities necessary to keep himself in the front ranks of the profession. He may spend his spare time in work in the bacteriologic or chemical laboratories, in the roentgen-ray department, in the library, and in acquainting himself with all new diagnostic methods.

14. The library of the community hospital should contain all valuable current medical journals, and it should be able to secure the loan of rare and valuable books from the Surgeon-General's library and from other great medical libraries; in other words, any book or journal needed by the local physician could be obtained.

15. The community hospital would serve as a graduate school; specialists could be called to the laboratories and to the diagnostic rooms and give instruction on all recent advances. For instance, the application of the Schick test, and the inferences to be drawn from the reactions obtained, could be demonstrated.

16. In my opinion the organized medical profession, the American Medical Association, through its House of Delegates, should take hold of this matter, work out the details, and all interested in the welfare of the profession should pull together for its development.

17. In my opinion, preventive and curative medicine should be combined in the community hospital. Increasing the number of health officers or securing for each county a health officer, as is now being attempted by more than one state, will not serve the purpose I have in mind. As we have already seen, the death rates in rural districts have not been materially lessened in the last twenty years, while they have been reduced in the large cities. This difference is not wholly, nor do I believe even largely, due to the better or more complete prevention of the communicable diseases, but is largely due to the better facilities for diagnosis and treatment possessed by the profession at large.

18. The plan which I have in mind would enable the profession to collect within a few years most valuable and reliable morbidity statistics, something which has never been done in any country except in military organizations, and on account of age, sex, occupational and social differences, the records obtained in military camps are not applicable to civil life. We could soon secure valuable data on the influence of locality, race, manner of living, season, occupation, diet, age, etc., on the prevalence and modifications of disease.

19. The inauguration of some such plan as this would forestall all attempts to force on the profession undesirable forms of state medicine, and would retain for each and every physician his individuality and self-respect and keep him from the necessity of becoming a mere cog in a great political wheel.

20. It would in the best possible way place all physicians on the same level so far as opportunity is concerned, and it would give to all citizens the benefit of scientific medicine, both preventive and curative. It would give to the rural doctor the same chance to grow in knowledge and skill possessed by his brother in the metropolis, and it would do much to relieve the great urban congestion from which our nation now suffers and which in the past has wrecked more than one civilization.

CONCLUSION

I have presented my ideas to you and ask that you consider and discuss them: I have but one purpose in view, and that is to secure, so far as possible, for

1. Abstracted, this issue, p. 1034.

every physician in this country, such aids in diagnosis and in treatment as scientific medicine demands. I believe that, by some such arrangement, both the profession and the laity would be greatly benefited. I dare say that some such plan as this, with many diverse modifications, will be attempted within the next few years. It is fortunate that our form of government permits each community to make experiments for itself. I would not, if I could, lay down any cast-iron, inflexible plan, and say that it should be imposed on all the people. I believe that advances, those that are really worth while, are most effectively made along educational lines.

CULTIVATION OF A FILTRABLE ORGANISM FROM THE NASOPHARYNGEAL WASHINGS IN INFLUENZA*

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During the influenza epidemics of the spring and fall of 1919, we succeeded in cultivating a minute filtrable organism from the nasopharyngeal washings of early cases of uncomplicated influenza. As investigations were being carried on at the time concerning the etiology of epidemic encephalitis, it was important for us to make studies in influenza to determine whether there was any relationship between the etiologic agent in epidemic encephalitis and in influenza. In February, 1920, in reporting[1] the results of the investigations concerning epidemic encephalitis, a brief note of our findings in influenza was incorporated. It was stated that "in three cases we have isolated, from filtrates of nasopharyngeal washings, organisms in pure culture which closely resemble morphologically the organism found in our encephalitis series. This work is now being prosecuted vigorously, to establish a possible etiologic relationship. Thus far no encephalitis has been produced in rabbits with these strains." Since that time we have continued these studies, and are prepared to make the report herewith submitted.

Nasal washings and pharyngeal swabs were obtained according to the technic described in previous publications on epidemic encephalitis.[2] The nasal washings were filtered directly, unless the presence of an excessive amount of mucus made necessary a preliminary shaking with glass beads. For the most part, pharyngeal swabs were used. These were washed in several changes of physiologic sodium chlorid solution, care being observed to use small quantities of the fluid. The slightly turbid fluid thus obtained was then filtered. The filters employed were of the Mandler type, which were found to be satisfactory as regards their ability to hold back the usual test organisms under the same conditions obtaining in the experimental filtrations. The filtrates were cultivated aerobically on ordinary laboratory mediums, including blood agar, and also anaerobically, in the tissue-ascitic fluid medium of Noguchi.

The preparation of the anaerobic medium is, briefly: Fragments of sterile rabbit kidney are transferred to tubes 20 by 1.25 cm., covered with from 3 to 4 c.c. of sterile ascitic fluid, and incubated for twenty-four hours. At the end of this time the grossly contaminated tubes are detected and discarded. The tubes containing sterile kidney tissue and ascitic fluid are inoculated, and ascitic fluid added to form a column about 10 cm. high. As in all our other work, we have found that the choice of a suitable ascitic fluid is of prime importance. Ascitic fluid stored for any length of time has a tendency to become too alkaline. When the alkalinity is beyond a p_H of 8.0, dilution with 2 per cent. glucose broth having a p_H of 6.8 or titration with tenth normal hydrochloric acid has been of service in reducing the alkalinity to the proper range. Anaerobiosis is perfected by the addition of a layer of melted sterile petrolatum.

A semisolid medium is also employed. The optimum solid medium is of a gelatinous consistency, made so by the addition of one part of 2 per cent. glucose agar to from four to five parts of ascitic fluid, the kidney tissue being added as usual. The necessary controls on each of the ingredients constituting the culture medium are made in every case.

A successful growth in the anaerobic fluid cultures is recognized on the fourth to the sixth day, or later, by clouding of the medium, commencing about the kidney tissue, the outline of which becomes hazy and irregular. The clouding extends upward in the ascitic fluid column. The organisms are not held in suspension long, settling to the bottom within a period of from two to three weeks, and leaving the supernatant fluid clear. Occasionally one finds numerous organisms in the material taken from the bottom of relatively clear tubes. It should be emphasized that the organism at all times is a strict anaerobe.

Transfer to semisolid mediums has been obtained thus far only with the subcultures of the organism. Certain strains are apparently more adaptable to this type of culture medium. Growth is indicated by diffuse clouding of the medium, the initial and most intense clouding taking place in the region of the kidney tissue. Individual colonies can be made out with a magnifying glass.

Material for smears and transplants is taken from the dependent portion of the fluid cultures. The smears are fixed in methyl alcohol and then stained with Loeffler's alkaline methylene blue (old), dilute Giemsa solution or polychrome methylene blue. Prolonged contact is necessary in order to bring out the organisms. We have adopted the Gram method of Sterling, counterstaining with steaming 10 per cent. safranin.

In stained smears with magnification of 1,200 diameters, the organisms appear mostly as minute globular bodies which are arranged singly, in diplo-form, in short chains and in clusters. Most reliance has been placed on Loeffler's alkaline methylene blue and Gram stains. With the former stain the organisms take on a color which varies from violaceous to deep blue. They are decolorized by Gram. The individual organisms have an average diameter of 0.25 micron as measured by the ocular micrometer.

The organism has been obtained consistently from the filtered nasopharyngeal washings of uncomplicated influenza patients in the early stages. Most of our positive cultures have been obtained in the first twenty-four hours of the disease. The organisms have been subcultivated for several generations.

* From the Pathological Department, Mount Sinai Hospital.
* This work was done under the tenure of a Moses Heineman Fellowship.

1. Loewe and Strauss: Proc. New York Path. Soc. **20**: 27 (Jan.-May) 1920.
2. Loewe, Leo, and Strauss, Israel: The Diagnosis of Epidemic Encephalitis, **74**: 1373 (May 15) 1920.

Aside from obvious contaminations, cultures on the ordinary laboratory mediums have remained sterile. This organism has never been encountered in similar cultures of nasopharyngeal washings of patients suffering from conditions other than influenza.

Characteristic lesions have been produced in lungs of rabbits by the intratracheal inoculation of initial cultures and of transplants. With the same technic, similar lesions were produced in rabbits by initial cultures preserved at 37 C. under strict anaerobic conditions for fourteen months. The organism was recovered from the lungs of animals injected with these cultures.

Rabbits showing these lesions manifested, within twenty-four hours after inoculation, apathy, rhinitis, dyspnea, ruffling of the fur, conjunctivitis and elevation of temperature. In rabbits with stertorous breathing, auscultation of the chest revealed numerous moist râles and sibilant and sonorous breathing. Depression of the total leukocyte count was a constant finding in animals succumbing to the experimental disease, sometimes amounting to 50 per cent. or more.

The lesions in the experimental animals are being examined by Dr. George Baehr, who will subsequently report his studies in full. The changes which he has found in the lungs of animals which have been killed within from twenty-four to forty-eight hours after the onset of the disease present very unusual features. Dr. Baehr thus summarizes them:

The lungs are usually voluminous, and present a striking example of acute emphysema. Sometimes one lung or part of a lung is more markedly involved by the process. The normal pale yellowish gray surface of the organ is mottled with deep pink in large diffuse areas. Here and there in these pink areas are often small hemorrhagic foci, usually diffuse in outline and varying from pin-point size to that of a lentil.

On section of the lung, no areas of firm consolidation are discoverable. The cut surface drips a blood-stained fluid, and frothy edema fluid is sometimes present in the lumen of the trachea and bronchi. The mucous membrane of the latter shows intense congestion, and is often stippled with minute hemorrhagic points. In addition to emphysema and perhaps some edema, the involved lung parenchyma is pinkish red at the periphery, shading to a darker red at the hilum. In these red areas, some small dark hemorrhages, pin-point to pin-head in size, are frequently discernible.

On microscopic examination, the salient features of the pathologic process are: (1) emphysematous overdistention of alveolar air spaces; (2) small hemorrhages into the walls of bronchi and the presence of red blood cells in the bronchial lumen; (3) congestion and sometimes edema of areas of lung parenchyma; (4) hemorrhagic extravasations into the interstitial tissue of the alveolar spaces, filling smaller or larger groups of them with red blood cells; (5) absence of ordinary inflammatory exudate; (8) occlusion of numerous interalveolar and interstitial capillary loops with blood platelet thrombi.

These minute intracapillary thrombi constitute a significant and conspicuous feature of most of the pathologic material that has thus far been studied. They have been found in the lungs of animals that have been killed shortly after the development of the first evidences of illness, and probably precede and are responsible for the other five features of the pathologic picture previously described by MacCallum, Winternitz, Soeronsen, Olitsky and Gates, and others, both in human and in experimental influenza. The occluded capillary loops are always dilated, the lining endothelium is swollen and often shows beginning proliferation, and the lumen is occupied by a mass of blood platelets scattered through which is usually a fair number of polymorphonuclear leukocytes. In the vicinity of such an obstructed capillary, interstitial and intra-alveolar hemorrhages are usually present. But similar changes can sometimes be seen in capillaries in areas of lung parenchyma which show as yet merely some interstitial congestion and emphysema. The lesion has not been observed by us as an essential feature of any other type of intrapulmonary disease, either in human beings or in experimental animals.

Emulsions and filtrates of the lungs of animals showing the lesions described by Dr. Baehr have induced the experimental disease when injected into the trachea of other animals. The virus has thus been passed in series through several transmissions.

The organism has been grown in pure culture from filtrates of lung tissue and from the lung tissue itself, of animals in whom the disease had been originally produced by filtrates of, or cultures made from, pharyngeal washings. It has also been cultivated in virulent form from the lungs of rabbits in which the disease had been produced by virus (filtrates of lungs) that had been passed through a series of animals.

In a few instances, the organism has been recovered in pure culture from the blood of rabbits injected intratracheally. There is apparently no relation between the degree of the lesions in the lung and the occurrence of the organism in the blood stream. These animals have shown the usual clinical manifestations of the disease.

In the absence of secondary invaders, aerobic cultures on ordinary laboratory mediums, including blood agar, have proved negative. The presence of secondary invaders is frequently shown by the production of more extensive pathologic processes, such as pneumonic consolidation, empyema and pericarditis. Such complications appeared in animals allowed to live beyond the customary thirty-six to forty-eight hours, and were usually accompanied by a secondary rise in the total leukocyte count.

The pathologic lesions and the clinical picture which we have described have not been produced by the intratracheal injection of any control materials. One series of animals was inoculated intratracheally with the contents of a control tube containing kidney tissue and ascitic fluid which had been kept at incubator temperature for the same length of time as our original positive cultivations—fourteen months.

CONCLUSIONS

1. A minute, filtrable, gram-negative organism has been isolated in pure culture from the nasopharyngeal washings of early cases of uncomplicated influenza.

2. A typical clinical picture and characteristic pathologic changes have been produced in rabbits by the intratracheal inoculation of these cultures. Both initial cultures and subcultures have proved pathogenic for animals.

3. The same clinical and pathologic manifestations were produced in a series of rabbits by the intratracheal inoculation of a culture kept at incubator temperature for fourteen months.

4. The infectious agent has been carried through several animal passages.

5. The organism has been recovered in pure culture from the lungs of animals suffering from the experi-

mental disease, and has been proved to be again virulent.

6. All control studies have been negative.

A full report of the studies detailed above, as well as further studies on the nature of the organism and the lesions produced by it, will subsequently be published.

NOTE.—In THE JOURNAL, March 5, 1921, Olitsky and Gates described an organism cultivated from cases of influenza. The organism which we have recovered does not appear to differ from the organism which they have isolated.

DIAGNOSIS AND SIGNIFICANCE OF TRACHEOBRONCHIAL ADENOPATHY

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The difficulty in obtaining good histories and the lack of clear-cut symptoms and signs account for the comparatively infrequent diagnosis of a tuberculous infection or clinical tuberculosis in children. In civilized countries the tubercle bacilli are omnipresent. Clinical pathology and necropsy findings have proved that a tuberculous infection or active tuberculosis is present in from 85 to 95 per cent. of all children under 16 years of age. It is believed by many that any child who has been closely associated with a person having open tuberculosis is potentially tuberculous, the disease manifesting itself later in childhood or in adult life. Today the phthisiologists are few who do not believe that clinical tuberculosis in adult life, in civilized countries, is with rare exceptions only a recrudescence of the infection acquired in childhood.

In determining the possibilities of a child's having active tuberculosis later in life, many factors must be taken into consideration. The influence of the constitutional factor has been pointed out by Pearl.[1] In taking the histories of several children in the same family who have lived under practically the same environment, it is interesting to note that they often vary widely in the resistance they offer toward diseases in general. Again, the resistance offered by children of one family to diseases, compared with the resistance offered by the children of another family who are living under practically the same environment, is much different. With such observations it seems reasonable to believe that the inherited constitution of the individual plays a part in determining whether or not a child who is infected with the tubercle bacillus will develop active tuberculosis in childhood or adult life.

The influence of environment in the cause of clinical tuberculosis has been pointed out by many writers, and recently discussed in detail by Krause.[2] In the first place, environment determines whether or not a child will receive a tuberculous infection. It determines whether the infection will be a light, medium or massive one. It has much to do with increasing or decreasing the resistance of the individual. So, after all, environment is the chief factor in determining the degree of the initial or subsequent infection, and the quiescence or activity of the infection. The degree or extent of the infection in early life is a factor which deserves careful consideration, and it is to this one that I wish especially to call attention.

Since it is generally believed that with rare exceptions clinical tuberculosis of adult life is only an awakening of a tuberculous infection contracted in childhood, then how important it must be to know something about the extent of the childhood infection so that one's environment may be changed if need be to protect the child from the consequence of the infection. The individual should be treated as soon as the presence of the infection in childhood can be determined, and all possible means should be used to increase resistance at an early age, by improving home conditions and personal and school hygiene. The treatment is chiefly that of teaching them how to live. It is important that such children be impressed with the fact that they have a tuberculous infection and taught not only about right living but also concerning the signs and symptoms of an early active tuberculosis so that they will present themselves for examination and management while the infection is in the incipient stage.

It is interesting to note how, under proper guidance, the activity of many cases of moderately advanced pulmonary tuberculosis will become arrested; but it frequently takes months or years to obtain such results. It is also interesting to observe how much shorter period it usually takes and how much surer one can feel that the arrested condition may be permanent if they are placed on management early in the disease. One who examines many chests frequently sees a patient with advanced pulmonary tuberculosis whose history and chest findings indicate that the present activity has extended over a period of years and the patient is just awakening to the cause of his trouble. In all probability, if these patients had been examined in childhood evidence of a massive tuberculous infection would have been found. It is also reasonable to believe that if they had been told of the degree of their infection and the possibilities of the inactive process becoming active and instructed in the signs and symptoms of early activity they would have presented themselves at such a time that the disease would have been amenable to treatment.

It is true that a large percentage of the children whose chests show a massive tuberculous infection have a history of contact with an open case of pulmonary tuberculosis, either familial or otherwise; but, knowing that the tubercle bacilli are omnipresent and that father's shoes are frequently leaving on the cleanest rugs myriads of active tubercle bacilli that are accessible to baby's fingers, and knowing that baby's milk is frequently from cows with tuberculous udders or is handled by men with open pulmonary tuberculosis, we understand better the finding of a heavy tuberculous infection in the chest of a child who gives no history of contact with an open case.

Surely it is of vital importance to examine the chest of every child before he reaches young adult life with an idea of determining if possible the presence of a tuberculous infection and if so, how heavy. If this were done and he were advised properly concerning the findings, the number of advanced cases of pulmonary tuberculosis would in all probability become markedly reduced.

At the Oklahoma City Tuberculosis Dispensary we have studied the chests of 449 children under 16 years of age. Believing that the degree of infection is a large factor in determining whether or not a child will develop active tuberculosis some time in life, we have

1. Pearl, Raymond: The Relative Influence of the Constitutional Factor in the Etiology of Tuberculosis, Am. Rev. Tuberc. 4:668 (Nov.) 1920.

2. Krause, A. K.: Environmental Factors in Tuberculosis, Am. Rev. Tuberc. 4:713 (Nov.) 1920.

tried to determine the importance of certain physical signs and roentgen-ray findings as indicators of the degree of the infection. In our study we have paid special attention to the significance of the D'Espine sign as an indicator of tracheobronchial adenopathy and the appearance of the hilum shadows in the roentgenogram as a means of differentiating tuberculous from nontuberculous glands.

THE D'ESPINE SIGN

There has been considerable difference of opinion as to what constitutes the D'Espine sign. In 1907 and again in 1910, D'Espine [3] called attention to a sign which he had observed for several years and which he first thought was diagnostic of tuberculous glands at the root of the lungs but which he finally concluded was diagnostic of enlarged tracheobronchial glands due to any one of several causes. He stated that in young children the tracheal voice normally ceases at the level of the seventh cervical spine. In those cases in which the lymph nodes are enlarged at the root of the lungs, the tracheal voice will be heard over the upper thoracic spine when the patient whispers thirty-three.

In 1907, Stoll [4] made a study of the D'Espine sign. He checked a limited number of his cases with the postmortem findings. He thus summarizes his views: A positive D'Espine sign is indicative of a pathologic process at the root of the lungs. This may be due to enlarged glands, the results of malignancy, leukemia, Hodgkin's disease, syphilis or any infectious disease of the lungs. A positive D'Espine sign in undernourished children is exceedingly suspicious of a tuberculous involvement of the tracheobronchial glands.

Howell [5] studied a large number of children with reference to the significance of the D'Espine sign. Roentgenograms of most of his cases were made. Practically all revealed a hilum shadow abnormal in size and density.

In 1916, Morse [6] published the results of his study of the D'Espine sign. He concluded that D'Espine was correct in finding the tracheal voice normally changing at the seventh cervical vertebra. He was led to believe that when the D'Espine sign was found positive it indicated a tuberculous infection in about 50 per cent. of the cases. His findings, however, were not checked by the roentgen ray or by postmortem examination.

In 1919, Moorman [7] reported a series of cases in which he made special mention of the value of the D'Espine sign in the study of tuberculosis in children. He concluded that it was of considerable value in differentiating tuberculous and nontuberculous infections of the chest in children.

In our study we have considered the D'Espine sign positive if the tracheal voice is heard below the seventh cervical vertebra in children under 3 years of age, or below the first dorsal in children between 3 and 5 years of age, or below the third dorsal in children over 5 years of age. We have not considered the sign positive unless the voice sounds are distinctly tracheal in character.

3. D'Espine, Adolphe: Diagnosis of Tuberculosis of the Bronchial Glands in Children, Brit. M. J. **2**:1136, 1910.
4. Stoll, H. F.: The Diagnostic Significance of D'Espine's Sign, Am. J. Dis. Child. **20**:183 (Sept.) 1915.
5. Howell, W. W.: Studies in Bronchial Glands, Am. J. Dis. Child. **10**:90 (July) 1915.
6. Morse, J. L.: D'Espine's Sign in Childhood, Am. J. Dis. Child. **11**:276 (April) 1916.
7. Moorman, L. J.: Tuberculosis in Children with Special Reference to the Tracheobronchial Glands, J. Oklahoma M. A. **12**:123 (May) 1919.

ANALYSIS OF CASES

In the analysis of the cases we have studied I will mention the symptoms, physical signs and roentgen-ray findings which are important in the diagnosis of a tuberculous infection and tuberculosis in children.

Of the 449 cases studied, 164 (36.5 per cent.) gave a history of contact with an open case of tuberculosis; 132 (29 per cent.) had been exposed to suspected cases of tuberculosis, and 153 (34.5 per cent.) gave no history of exposure. There was a history of whooping cough in 316 (70 per cent.) and measles in 357 (79 per cent.). Pneumonia, either lobar or bronchial, had occurred in 116 (26 per cent.). Pleurisy had occurred in fifty-four (12 per cent.). At the time of the examination, 116 patients (26 per cent.) complained of cough, while only seventy-four (15 per cent.) gave a history of expectoration. There was a history of hemorrhage in thirteen (3 per cent.), but the majority of the hemorrhages occurred during attacks of influenza. Pain in the chest was a symptom complained of by seventy-one (16 per cent.). Fever was found either at the time of the initial examination, at subsequent examinations, or by the nurse during her visits at the home of sixty-seven (15 per cent.). A history of loss of weight was obtained in fifty-four (12 per cent.). Hoarseness had been noticed by forty-five (10 per cent.). Disturbed appetite or digestion was complained of by seventy-five (16 per cent.).

Of all the patients examined, 304 (68 per cent.) were found below standard in weight. Enlarged cervical glands were palpable in 224 (50 per cent.). Enlarged tonsils were found in 211 (42 per cent.). D'Espine sign was elicited in 116 (37 per cent.). Râles were elicited in fifty-seven (12 per cent.).

Two hundred and thirteen (about 50 per cent.) of the patients were roentgenographed. Practically all patients on whom was elicited a positive D'Espine sign or from whom a history of contact was obtained were roentgenographed. In our roentgenographic study of the hilum shadows and the surrounding lung tissue we have considered the small calcified areas evidence of an old tuberculous process. Krause, Wolbauch and Reynolds believe that practically all calcified areas seen in the roentgenograms of the chests of children are evidence of a calcified tubercle. The roentgen-ray diagnosis, made independently of the clinical diagnosis, was: tuberculous infection of the tracheobronchial glands alone, thirty-eight; tuberculous infection of the tracheobronchial glands plus peribronchial tuberculosis, 124; tuberculous infection of the tracheobronchial glands plus peribronchial tuberculosis plus parenchymal changes, twenty-two.

A clinical diagnosis of a tuberculous infection of the tracheobronchial glands was made in 154 (30 per cent.); pulmonary tuberculosis Stage I, in seventy-six (17 per cent.); Stage II, in eight (2 per cent.); Stage III, in two cases.

There has been considerable difference of opinion as to the cause of enlarged glands at the root of the lungs. From our observation we have been led to believe that they are the results of malignancy, leukemia, Hodgkin's disease, syphilis or any infection of the lungs. As a rule, by means of history, physical examination and clinical pathology one can determine fairly definitely whether malignancy, leukemia, Hodgkin's disease or syphilis is present. The most common cause of enlarged tracheobronchial glands is respiratory infections. Some have contended that measles and whooping cough will cause an enlargement of these glands.

In the cases we have studied, 70 per cent. of the patients had had whooping cough, and 79 per cent. gave a history of measles; yet we found a positive D'Espine sign in only 37 per cent. We found no definite relation existing between enlarged tonsils or attacks of tonsillitis and the enlarged glands at the root of the lungs. Our study of bronchitis in children has led us to believe that it will cause a tracheobronchial adenopathy; but as a rule the glands will not be large, and the D'Espine sign in these cases is not so marked as found in tuberculous glands. However, the only way by which a tuberculous hilum can be differentiated from a nontuberculous one is by the roentgenogram. The enlarged hilum due to a nontuberculous infection is usually only moderately enlarged and not very dense. It is smooth in appearance, while the tuberculous hilum is usually larger and of a greater density, with irregular borders and granular in appearance, owing to its infiltration with calcified tubercles. The hilum shadow due to a nontuberculous infection can be compared in appearance and significance with a hyaline cast found in urine, while the tuberculous hilum can be compared with the granular cast.

CONCLUSIONS

1. A positive D'Espine sign is indicative of enlarged glands at the root of the lungs.

2. Enlarged tracheobronchial glands may be due to any one of several causes, the chief of which is an infection by the tubercle bacillus.

3. If tonsillitis, whooping cough or measles causes enlarged tracheobronchial glands, they are usually not of sufficient size or density to give a positive D'Espine sign.

4. Chronic bronchitis will produce enlarged tracheobronchial glands which can be differentiated from a tuberculous hilum by means of the roentgenogram.

5. A positive D'Espine sign found in a poorly nourished child usually is evidence of a tuberculous infection of the hilum.

6. The degree of the infection can be determined by the roentgenogram.

7. Weight below standard is very common in children with a chronic tuberculous infection.

8. A child with a massive chronic tuberculous infection is a candidate for active tuberculosis, and should be watched carefully for early signs and symptoms.

9. In chronic tuberculous infections in children, few signs can be elicited by physical examination.

10. The degree of the infection in childhood is an important factor in determining whether or not a child will develop active tuberculosis in adult life.

11. Every child should have a thorough physical examination with the idea of determining if possible whether or not there is a tuberculous infection of the chest, and if so, how heavy.

12. Those with evidence of massive infections should be taught how to live and should be instructed in the signs and symptoms of early tuberculous activity. If this were done, the number of advanced cases of pulmonary tuberculosis would be greatly reduced.

Pain as a Symptom.—A very significant point about pain as a symptom is that although much has been learned by physiologists and physicians, practically nothing has been added to our knowledge by the numerous and busy healers whose practice is largely devoted to diseases in which pain is the prevailing feature.—G. Dock, *J. Missouri M. A.* **18**:80, 1921.

THE SURGICAL TREATMENT OF SO-CALLED ELUSIVE ULCER OF THE BLADDER *

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This paper is based on a series of five cases that have been under observation during the last ten months. The diagnosis was verified by operation and histologic examination of specimens obtained by operation.

To Hunner [1] of Baltimore must be given credit not only for having aroused the interest of urologists in a closer study of a group of cases that have not generally been recognized before, but also for having suggested a definite line of treatment which has given excellent results.

NOMENCLATURE

There seems to be some doubt or some confusion regarding an exact nomenclature for the lesion under discussion. Hunner, acting on the suggestion of Cullen, accepted the term "exclusive ulcer," and "this comprehends satisfactorily the difficulties in locating the ulcer part of the lesion and its changing characters while under observation and treatment; but in common with any simple term, it fails to describe adequately the widespread character of the chronic inflammatory involvement of the bladder walls."

Geraghty suggested the term "paracystitis," and recently Keene suggested the term "circumscribed panmural ulcerative cystitis."

From these few citations it is evident that each author has felt it his duty to suggest a new name for the disease. As this only adds confusion, I have refrained from offering any further suggestions.

A discussion of the nomenclature would not be complete without reference to the term used by Nitze [2] in 1907 for a condition that appears to be identical with the ulcer described by Hunner. Nitze says:

> In rare cases the catarrhal process does not remain limited to the outer surface of the mucosa, but also attacks the deeper layers of the bladder wall at isolated spots. Such cases of "*cystitis parenchymatosa*" show the bladder wall altered by small celled infiltration and cicatricial formation, and this will cause the patient to suffer well known and severe disturbances, the slightest distention beyond a certain degree producing most intense suffering. In these cases, if coexisting, diffuse, superficial catarrh is also present, the cystoscopic picture is usually only slightly characteristic, and involvement of the deeper sheaths of the bladder wall may be surmised only on consideration of all other symptoms.
>
> Quite different are those cases in which the superficial catarrh is mild or has completely healed, and in which there remains only that circumscribed, deep-seated process extending throughout the entire bladder wall. In these patients the slight turbidity of the urine offers a striking contrast to the severity of the symptoms present. On cystoscopic examination of such a bladder, one observes a circumscribed, irregular area, usually of uniform deep red, surrounded by normal or but slightly inflamed mucous membrane. This area has a distinctly smooth, mirror-like or varnished surface, on which are seen one or more small ridgelike elevations of a deep red or pink. Shreds of whitish membrane are found projecting from the edges of these ridgelike prominences. On gradually

* Read before the New York Academy of Medicine (Section of Genito-Urinary Surgery), Nov. 17, 1920.

1. Hunner: Boston M. & S. J. **172**:660, 1915.
2. Nitze: Lehrbuch der Cystoskopie, 1907, p. 208.

distending the bladder by means of an irrigating cystoscope, until the distention has reached a certain degree, there may be observed the process by which this slimy, deep red area ruptures at a given point for a short distance in its long axis and the hemorrhage which occurs at the site of the tear, causing intense suffering to the patient. At this moment one must naturally desist from further introduction of fluid.

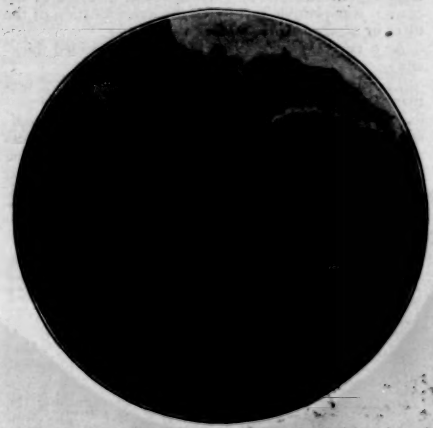

Fig. 1.—Section through ulcer showing loss of epithelium and round-cell infiltration.

This lesion is not so rare as one might suppose. Hunner in his third paper reported twenty-five cases.

The five cases which form the basis of my report were seen and recognized during a period of six months, from May, 1920, to October, 1920. One is justified in stating that this condition is relatively common, its apparent rarity being due to failure as to recognition. Often this failure can be attributed to the insignificant size and appearance of the ulcer, which at times may be only a pinpoint in size. At other times its presence may be overlooked for the reason that we are not familiar with this type of bladder disease, although, as previously mentioned, this lesion is undoubtedly identical with the lesion described by Nitze thirteen years ago.

While the total number of cases reported is small (forty-eight), a matter which should not be overlooked is the fact that only six years have elapsed since Hunner's first paper was published. Hunner has reported twenty-five of these cases; Keene,[3] ten; Fowler,[4] three; Reed,[5] five, and myself five.

The difficulty of interpreting the cystoscopic findings in these cases is correctly illustrated in one of the cases included in this report. The patient had suffered from this condition for many years and had been operated on for ailments other than the correct one. I saw the patient and operated on her without giving the desired relief. It was not until I discovered that she had "elusive ulcer" that I was able to clear up her symptoms. A discussion of her history will be given later.

Doubtless many women who are suffering from bladder distress and whose condition is diagnosed and treated as neurasthenia will be found, on closer study, to have some organic basis for the presence of their bladder symptoms. Intensive study of renal infection has led to the general knowledge that a large number of the many women suffering from symptoms of cystitis are really suffering from pyelitis, and that when pyelitis is treated the cystitis disappears. So close study of this type of bladder ulcer has shown repeatedly that women who are being treated for irritable bladders, cystitis, neurasthenia, etc., are suffering from an elusive ulcer, and that the bladder condition is cured after proper surgical treatment is instituted.

After the diagnosis in the first case was made and verified by operation, it was difficult to understand why the lesion was not recognized during the patient's first period of hospital observation. This was probably due to the fact that some of the findings in her case did not tally with the findings as mentioned by Hunner. In the first three, pus and bacteria were found in the urine; and in two of the cases, infection was present in both kidneys. From one of Hunner's articles I received the impression that the urine is "macroscopically clear" and that the urine contains only a few leukocytes or erythrocytes or both.

ETIOLOGY

There is nothing known concerning the etiology of this condition. All the patients were examined for the presence of foci of infection in organs such as the teeth, tonsils and sinuses. As a result of examinations it was found that one patient had enlarged tonsils; two patients had severely infected tonsils as well as infected teeth and pyorrhea; one patient had tonsillar tissue in each fossa and one patient had a chronic discharge from the urethra and Skene's glands.

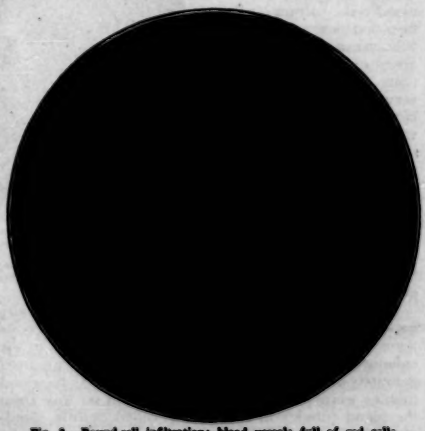

Fig. 2.—Round-cell infiltration; blood vessels full of red cells.

Pelvic Examination.—In order to exclude the possibility of lesions of the internal genitalia, vaginal examinations were carried out in all these cases with negative results.

Sex.—These five cases occurred in women.

Age.—The ages were 28, 42, 46, 32 and 32.

Pregnancy.—The bearing of children does not seem to have any influence on the causation of the condition.

3. Keene, F. E.: Ann. Surg. 72: 479 (April) 1920.
4. Fowler, H. A.: Ulcer of the Bladder (Hunner Type), J. A. M. A. 75: 1480 (Nov. 27) 1920.
5. Reed, C. A. L.: Irritable Bladder in Women, J. A. M. A. 72: 332 (Feb. 1) 1919.

Three of the five women were married. One had one child; the remaining two had never been pregnant.

PATHOLOGY

All the specimens removed at operation were subjected to careful histologic examination. The microscopic picture was almost uniform. While the changes varied somewhat in extent and in minor details, the same general picture was found, as a rule, in all five cases. The ulcer-bearing area showed a loss of the epithelium. In several instances there appeared to be a flattening of the epithelium, so that, as the edge of the ulcer was approached, the epithelium was much flattened and formed a very thin layer. In one case the epithelium appeared to have changed to the flat, squamous type of cell. Some of these cells seemed to be hydropic. Occasionally the surface of the ulcer was covered with fibrin, and many red blood cells were noted in some of these fibrin masses. The fibrin was not limited to the surface of the ulcer but extended beyond the edge and over and on to the mucosa. At times, red blood cells were seen, adhering to the surface of the ulcer.

The most extensive changes were those found in the submucosa. The submucosa showed many new formed blood vessels, and these were packed full of blood cells. Round-cell infiltration was seen in the submucosa. There were areas in which the collections of round cells were very small; and in others, large masses of round cells were noted. Some of the sections showed these small, round cells closely crowded together and with the border rather sharply defined, and these areas resembled somewhat the collections of cells seen in so-called cystitis follicularis:[6] rather dense and visible to the naked eye.

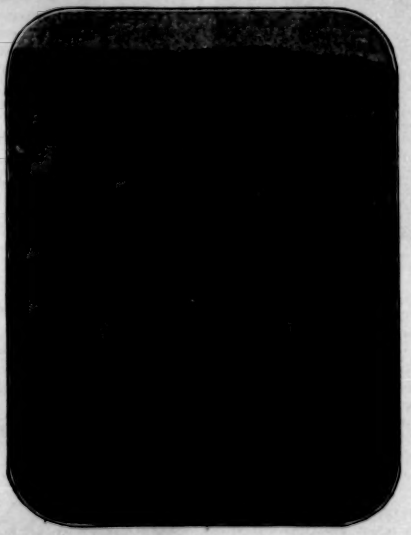

Fig. 3.—Newly formed connective tissue and loss of surface epithelium.

Round-cell infiltration was also seen occasionally between the muscle bundles. In several of the sections there were newly formed connective tissue cells in the submucosa, and here and there the submucosa appeared definitely edematous. In two of the five sections, gland tubules were seen; and these differed in no way from the gland tubules in cases of so-called cystitis glandularis.[6] In one of the sections the cells forming the tubules showed the presence of secretion within the cell, so that they had the appearance of typical goblet-cells. A combination of follicle formation and gland formation was not found in the same specimen.

The changes in the muscular coat were not so extensive as the changes in the submucosa. Occasionally, areas of round-cell infiltration were noted, which however were not very extensive. In several of the sections the muscle bundles were apparently separated by edema.

A very striking change was that found at operation, the bladder wall showing an enormous thickening entirely out of proportion to the size of the ulcer or ulcers. This was so well marked that in three of the cases it was possible to foretell the exact location of the ulcer or ulcers before opening the bladder.

As a rule, the peritoneal coat showed decided thickening.

The specimen obtained by operation in Case 5 was turned over to Dr. George F. Dick for special bacteriologic examination, and he attempted to grow organisms from the ulcers. The technic employed was maceration of the excised ulcer-bearing areas of the bladder. This experiment showed the presence of *B. coli* only.

PREVIOUS OPERATIONS

Patients suffering from urinary distress are often operated on without being relieved of their symptoms. In this series, four patients, or 80 per cent., gave a history of previous operations for relief of urinary symptoms without obtaining the desired relief. The operations that had been performed on these four women were (1) appendectomy, resection of the ovary, and shortening of the round ligaments; (2) tumor of the bladder; (3) resection of the ovary, and (4) nephrectomy.

The fourth patient (on whom nephrectomy had been performed) was one on whom I had operated, having made a diagnosis of early renal tuberculosis of the left kidney. Careful examination of the kidney, both gross and microscopic, as well as several subsequent guinea-pig inoculations, failed to prove the presence of tuberculosis. This operation failed to relieve her of her urinary symptoms.

Two years later the patient returned to the hospital, at which time a diagnosis of "elusive ulcer" was made and operation (resection of the ulcer-bearing area) advised and carried out. This resulted in prompt relief of all urinary symptoms, with no recurrence up to the present.

SYMPTOMS

From an analysis of the records of these cases it was evident that frequency and painful urination were the most urgent of all symptoms. Frequency was present in every case, and had been present for periods varying from one to eight years. All the patients complained of great frequency of urination, and all volunteered the statement that they were obliged to void every ten or fifteen minutes. In every case the fre-

6. Kretschmer, H. L.: Surg., Gynec. & Obst., November, 1908, p. 510.

quency was present both day and night. In several, the frequency bore some relation to menstruation, since there was an increase of frequency just prior to or during the menstrual period.

Pain was generally described as severe in character and was present during urination. In one instance it was described as a smarting sensation, but in the other cases the pain was almost excruciating. The location of the pain was variable, patients complaining of pain radiating toward the kidney; pain in the back; severe pain after urination; pain in the neck of the bladder that often became sharp and piercing and spread all over the bladder region; severe cramplike pain in the back, side and bladder; toothache-like pain at the neck of the bladder, present during urination and severe spasms at the end of urination; and stabbing pain in the bladder region. None of the patients complained of pain in, or radiating toward, the rectum.

Hematuria. — The presence of macroscopic blood was noted in four of the five cases. This varied in amount from slight bleeding, just enough to stain the linen, to the passing of bloody urine. Two patients stated that they had passed clots of blood with the urine, and one said she had voided bloody urine only after bladder irrigations. Nitze and Hunner both called attention to the fact that overdistention of the bladder would cause the ulcers to bleed. In only one of the five cases was it impossible to elicit a history of hematuria.

Urinalysis. — Pus was present in the urine in each of the five cases. The amount of pus found was variable. Leukocyte counts of the urine were made in each case in order to have a more or less accurate record of the amount of pus present. The leukocyte counts obtained were: Case 1, 7,290 and 200 cells; Case 2, 1,080 and 2,170; Case 3, 150 and 2,000; Case 4, 70 cells (two specimens), and Case 5, 105 and 700 cells.

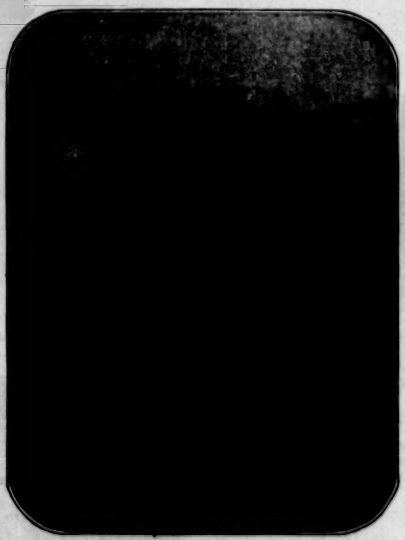

Fig. 4.—Section near edge of ulcer; the surface is covered with fibrin and red blood cells; epithelium flattened; large amount of newly formed connective tissue in the submucosa.

RESULTS OF URETERAL CATHETERIZATIONS

		Leukocyte Counts	Cultures
Case 1	Right kidney	40 cells	B. coli
	Left kidney	50 cells	B. coli
Case 2	Right kidney	1,420 cells	Sterile
	Left kidney	160 cells	Sterile
Case 3	Right kidney	6 cells	Sterile
	Left kidney	No specimen	
Case 4	Ureters not catheterized		
Case 5	Right kidney	74 cells	B. coli
	Left kidney	34 cells	Sterile

Cultures of the urine were made as a routine in each case. In several cases more than one culture was made, four sets being made in one case.

Examinations of the catheterized bladder urines disclosed *B. coli* in two cases; *B. coli* and staphylococci in one case, and sterile cultures in two cases. The cultures in one case were sterile before the operation, but showed *B. coli* after the operation. Erythrocytes were found in five cases.

Ureteral catheterizations were performed in four cases. The findings are recorded in the accompanying table.

This examination shows that pus was found in both kidneys in three cases; that positive cultures were obtained in two cases: one case, bilateral, the other unilateral. In one case the cultures were sterile, although pus was present in the urine from both kidneys.

In all these cases with the exception of Case 1, guinea-pig inoculations were made prior to the operation; in Case 1, guinea-pigs were inoculated after nephrectomy. With the possible exception of Case 1, none of these cases showed evidences of tuberculosis in the urine, either in the examination of the direct smears or in the guinea-pigs and in Case 1 the guinea-pigs were negative.

Roentgen-Ray Examination.—All these patients were roentgenographed for the presence of stone in the kidneys, ureters and bladder, and in each case the plates were negative.

Wassermann Reaction.—This test was made in two of the cases, and in each case the result was negative.

CYSTOSCOPY

The one prominent feature in this group of cases is that cystoscopic examination was painful and the bladder capacity very limited. Cystoscopically the ulcers varied in size from a pinpoint to 2 cm. in diameter. The area of ulceration was surrounded by a zone of hyperemia, which was sharply circumscribed, and by the bladder mucosa, which appeared normal. The surface of the ulcer may be covered with mocopus. Areas of edema around the areas of ulceration were not seen. Overdistention of the bladder was the cause of pain and of starting hemorrhage, the hemorrhage at times being so profuse as to interfere with the cystoscopic examination.

Location.—The locations of the ulcers were: Case 1, posterior wall; Case 2, junction of the anterior wall with the superior wall; Case 3, left lateral wall; Case 4, anterior wall; case 5, posterior wall. In one case there were areas of ulcers near the right ureteral orifice, in addition to the ulcers at the apex.

Diagnosis.—Once the condition was recognized, it was not difficult to diagnose it in the subsequent cases. Because of the history of long standing distress, the extreme pain in introducing the cystoscope, which in

several instances necessitated the use of anesthesia, the limited bladder capacity and the presence of areas of ulceration in the bladder, my concern was chiefly as regards the exclusion of tuberculosis. This was effected

Fig. 5.—Large area of round-cell infiltration.

by diligent search for tubercle bacilli in the stained specimens as well as by repeated guinea-pig inoculations.

PROGNOSIS

The prognosis, as regards a cure, is very good, provided the patients are operated on and the ulcers resected. Local treatment is of no avail in giving relief. As a matter of fact, bladder irrigations tend only to aggravate the symptoms. The use of vaccines was nil. On the other hand, the results in resecting these ulcers were so uniformly good that immediate relief from pain, as well as rapid improvement in the frequency of urination, can be vouchsafed these patients. The rapidity with which the frequency disappears depends on the extent of the ulcers and the amount of bladder that must of necessity be resected. In operating in these cases, I have endeavored to do a very wide resection on the ulcer-bearing area. In one or two instances in which a coexisting edema was found, I attempted to include the area of edema in the resected part of the bladder.

TREATMENT

The treatment of this condition is surgical and calls for a wide resection of the ulcer or ulcers. Hunner has suggested not only an extensive resection of the ulcers, but also a resection which should include the area of edema which sometimes surrounds the ulcers.

Many of these patients had been treated by other than operative methods before coming under observation. Bladder irrigations with various drugs, such as silver nitrate and potassium permanganate, had been used as well as solutions of argyrol. Several of the patients had been put on courses of vaccine injections. All these nonoperative measures failed to improve the bladder condition, and in most cases the local medication only served to aggravate it. In Case 1 it was necessary to give the patient gas anesthesia every time the bladder was irrigated.

OPERATIVE TECHNIC

Ether anesthesia was used in all five cases, the patient being placed in the Trendelenburg position. The bladder was distended with water as fully as possible. In the more advanced cases, the distention was very limited, even with the patient under deep anesthesia.

The usual suprapubic midline incision was made and carried up to the umbilicus. The rectus sheath was divided in the usual manner and the fibers separated by blunt dissection.

Separation of the peritoneum, as a rule, was not very simple, owing to the fact that the peritoneum was firmly adherent to the bladder at the site of the ulcer areas. This thickened area could be easily felt and demonstrated before the peritoneal dissection was started, or even before the bladder was opened. Because of these local changes, the peritoneal cavity was opened up during the course of the separation, but immediately closed. It should be remarked here that the accidental opening of the peritoneum did not influence convalescence, and that no complications arose because of this fact. The dissection may be carried out with scissors or the scalpel.

Instead of beginning the peritoneal dissection at the apex of the bladder in the median line, Hunner has advised beginning well to the sides or on the posterior aspect and then working forward. This has been a very helpful procedure.

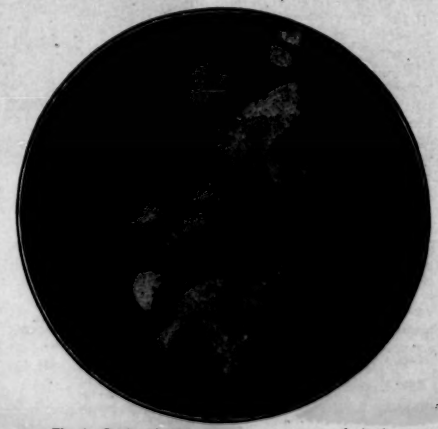

Fig. 6.—Section through area showing presence of glands.

The bladder is opened in the median line, and the ulcer-bearing area located and excised. This, it seems to me, is the all important part of the operation; hence the excision I made was extensive, so that after the operation, when the bladder is closed, the bladder cavity

is not much larger than a plum or small peach. In one of the instances the resection just skirted the ureter. Had it been necessary to resect the ureter, I should not have hesitated to do so. Incisions in the bladder are closed in the usual way with catgut, and a drain is placed in the bladder. In some cases an indwelling catheter was placed in the bladder. Iodoform gauze strips were placed above and below, these being

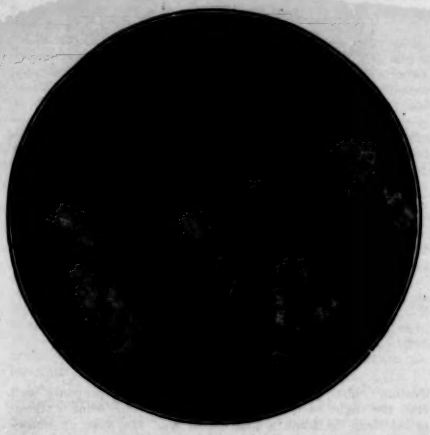

Fig. 7.—High power magnification of some of the glands, showing goblet cells.

removed at the end of forty-eight hours. After the fourth or fifth day, the suprapubic tube was removed, and bladder irrigations of potassium permanganate were carried out daily.

The results in all five cases have been uniformly gratifying. The distressing pain has disappeared, so that at the time of dismissal from the hospital, every one of these patients was free of pain. There remained, however, a certain amount of frequency of urination, and this, I believe, was due to the diminished bladder capacity as a result of the very wide resection. That this supposition was correct was proved by the subsequent course. All the patients have volunteered the statement that frequency of urination has become less and less, the intervals between urinations being longer, and that the amount voided each time has greatly increased.

122 South Michigan Avenue.

A Cripple Earns Annual Income of $7,000—At the head of the Michigan Hospital School, at Farmington, is a man 29 years old, with one arm and one leg paralyzed by infantile paralysis when he was 4 years old. In spite of this handicap and through his own efforts he has gained an education, has been mayor of a town and editor and proprietor of a newspaper before he became a teacher in the Van Leuven Browne Hospital School, at Detroit, for crippled children. His annual income is now $7,000. The new building for the hospital school will cost $750,000 with an endowment of half a million, and will be largely on one floor. There will be ramps instead of stairs and where necessary there will be elevators. The number of crippled children of school age in the country is estimated at 300,000, yet in only five cities has provision been made for taking them to and from school.

ROENTGEN OBSERVATION OF A VOLVULUS AT THE DUODENOJEJUNAL ANGLE

CHARLES WINFIELD PERKINS, M.D.
NEW YORK

In a survey of the literature, the only given abnormalities of the duodenum and jejunum at its juncture are those due to such causes as adhesions, malignancy in the surrounding tissues, and the results of tuberculosis, either in the form of enteritis or subsequent peritonitis. In consideration of the age of the patient whose case is reported below, the type of obstruction and the precision by which the roentgen ray illuminated the pathology, it seems at least to be unique and worthy of recording.

Carman and Miller [1] reported a case in which there was duodenojejunal obstruction due to caseation of the surrounding tuberculous glands. The transverse and ascending arm of the duodenum was found to be greatly distended.

Guérin [2] has reported an interesting case of stenosis at the duodenojejunal angle in association with a gastric ulcer, which had perforated and had adhered to the pancreas and mesocolon, with extension to the duodenal jejunal angle, thereby causing stenosis in that part.

REPORT OF CASE

T. C., a man, aged 18, entered the hospital, Nov. 6, 1920, because of general pain all over the abdomen associated with distention. The pain was more acute in the lower right quadrant. There was right rectus rigidity especially high up in the abdomen. There were attacks of nausea and vomiting. There had been constipation of years' standing. Otherwise the history was negative. Leukocytes numbered 16,000, with normal polymorphonuclear leukocytes. A tentative diagnosis of possible appendicitis was made. Dr. W. F. Honan removed the appendix, which appeared normal. The duodenal bulb and transverse duodenum were dilated, and adhesions were present between the stomach, pylorus and descending duodenum. These were divided. A small, engorged area was seen on the pylorus, but there were no evidences of ulcer. The gallbladder was distended with bile and was emptied with difficulty. The jejunum appeared normal. The intestines were distended, but as no other pathologic condition was present the abdomen was closed.

After the operation the patient was given a little food by mouth, but the distention continued and there was no improvement in his general condition. On the sixth day after the operation a roentgenologic examination was made under rather difficult circumstances.

The roentgenographic and fluoroscopic examination of the stomach after a full meal disclosed a very highly placed stomach, with the greater curvature situated in the region of the first lumbar vertebra. The stomach evacuated its contents with difficulty. There was marked distention of the small and large intestines owing to the presence of gas, which pressed the stomach high up in the abdomen.

Examination at two, two and one-half and six hours revealed a large stomach residue, with residue in the duodenal bulb, descending duodenum and transverse duodenum to the duodenojejunal angle. At the twenty-four hour examination there was a residue in the stomach, duodenal bulb and a large residue at the juncture of the duodenum with the jejunum at the angle. At the distal end of the ascending duodenum there was marked distention. Not any of the original meal had passed this point.

All these findings pointed to the presence of obstruction at the duodenojejunal angle. The remaining residue in the

1. Carman, R. D., and Miller, Albert: The Roentgen Diagnosis of Diseases of the Alimentary Canal, Philadelphia, W. B. Saunders Company, 1917.
2. Guérin, J.: Lyon chir. 18: 627 (Nov.-Dec.) 1919.

stomach and the coils of the duodenum appeared to be the result of a damming back of the meal as the result of the obstruction at the duodenojejunal angle.

The patient was operated on on the following day by Dr. Honan, and a volvulus was found at the proximal portion of the jejunum. This was unwound. The intestine was engorged and markedly devitalized. A small rubber tube was inserted in the jejunum, and the abdominal wound was closed. Feedings were given for several days through the tube, after which the patient was able to take liquid food through the normal channels. He has made a complete recovery.

180 West Fifty-Ninth Street.

CICATRICIAL LARYNGOPHARYNGEAL DIAPHRAGM *

G. B. NEW, M.D.
AND
P. P. VINSON, M.D.
ROCHESTER, MINN.

Pharyngeal strictures are of three types: (1) the nasopharynx closed off from the pharynx and mouth by adhesions from the soft palate to the posterior pharyngeal wall; (2) the soft palate scarred down to the base of the tongue, leaving a small opening laterally for respiration and the passage of air, a much smaller group, and (3) a cicatricial diaphragm in the laryngopharynx which joins the base of the tongue at about the level of the epiglottis to the posterior pharyngeal wall; there is a very small opening for the passage of food and for respiration. The cases in Group 3 are

Fig. 1.—Cicatricial diaphragm of the laryngopharynx as seen by suspension laryngoscopy.

practically all syphilitic in origin, although Fleischmann and Borchard [1] have advanced the possibility that they may sometimes be due to diphtheria, lupus or other nonsyphilitic ulcers. They report a case of a boy, aged 16, who had a nasopharyngeal and laryngopharyngeal stricture following diphtheria. There were no signs of congenital or acquired syphilis in the patient or his parents, and as the scars were not typical of syphilis it was concluded that the stricture might be postdiphtheric. In the case reported herewith the cicatricial pharyngeal diaphragm of the laryngopharynx with strictures of the esophagus was caused by swallowing lye. In our review of the literature we were unable to find a similar condition caused by swallowing caustics.

REPORT OF CASE

P. N. (A 293223), a man, aged 28, came to the clinic, Oct. 17, 1919, complaining of inability to swallow or to breathe through the pharynx; he was wearing a tracheotomy tube and a gastrostomy tube. He asserted that he had been perfectly well until the night of Oct. 6, 1917, at which time while walking in his sleep he drank a solution of lye. He woke up immediately and believed that he had been able to empty most of the solution out of his mouth without swallowing. A physician was called who gave olive oil and lard in milk. The tongue and mouth swelled, and for twenty-four hours he could not eat or drink; the following day, however, he was able to eat soft foods. His mouth and throat were quite sore for five or six weeks, but he was confined to bed for only four or five days. Within ten days he began having trouble swallowing solid food, but he swallowed fluids very well and had no difficulty in breathing. Nov. 15, 1917, following instrumentation in an attempt to dilate the esophagus, he had a marked subcutaneous hemorrhage into the tissues of his neck, increasing its circumference to 20½ inches three hours after treatment. The esophagus closed completely and he began to have difficulty in breathing, which become progressively worse. The patient was fed by bowel and lost weight from 138 pounds to 75 pounds. Dec. 17, 1917, a tracheotomy and a gastrostomy were performed. At first the food was put directly into the stomach through the gastrostomy tube, and the patient improved very little. Very soon he found that by chewing the food and then putting it into his stomach through the tube his nutrition improved and he gained in weight. He stated that he had been working for the last two years as instructor of manual training in a high school.

Fig. 2.—Postoperative appearance.

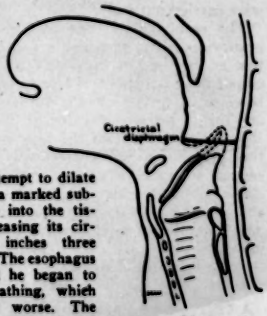

Fig. 3.—Diagram showing location of cicatricial diaphragm of laryngopharynx.

When examined, the patient weighed 124 pounds. He wore a tracheotomy tube and a gastrostomy tube. Examination of his mouth and posterior pharyngeal wall did not reveal scars

* From the Section on Laryngology, Oral and Plastic Surgery, and the Section on Medicine, Mayo Clinic.

1. Fleischmann and Borchard: Ueber Pharynxstricturen, Arch. f. Laryngol. u. Rhinol. 2: 345-354, 1894-1895.

of any kind. By means of a laryngeal mirror a scarred diaphragm was found joining the base of the tongue around the region of the epiglottis to the posterior pharyngeal wall; there was a small opening just to the right of the middle line, close to the posterior pharyngeal wall, which admitted a very small probe. By closing the tracheotomy opening and exhaling, a few bubbles of air could be forced through the opening. The patient stated that milk taken into the stomach through the gastrostomy tube sometimes regurgitated into the mouth through the opening. The diaphragm was quite thin; a bent probe could be passed in all directions from the small opening. The general examination was negative.

Oct. 28, 1919, by means of laryngeal suspension under ether, a further examination was made (Figs. 1, 2 and 3), and a circular piece was removed from the diaphragm with a knife. There was practically no bleeding on account of the thinness of the scar. The opening into the larynx and esophagus could be seen quite readily. The following morning the patient was able to eat oatmeal, the first food he had eaten since the gastrostomy; and he could cork the tracheotomy tube. During the next few days the opening showed a tendency to close, and the patient swallowed a silk thread which was drawn out through the gastrostomy tube. The patient was getting along so well with his nourishment that he did not wish to have anything further done. However, a sound was passed into the esophagus with the thread as a guide, and a stricture was located 20 cm. from the incisor teeth. On passing dilating olives, a second stricture was located just below the first. After the first dilatation, which was carried to 29 French, the patient was able to take any type of food, and by repeated dilatations the lumen of the esophagus was gradually brought to 37 French. With the first two or three dilatations, rather profuse bleeding occurred; but with further treatments the bleeding stopped.

Jan. 15, 1920, the patient developed influenza, followed by bronchopneumonia and a right empyema. This effusion was aspirated several times and finally it was necessary to make

Fig. 4.—Tracheotomy, gastrostomy, and empyema tubes in place.

a stab wound in the chest and insert a tube for permanent drainage (Fig. 4). Although at this time the patient was able to take food, it was thought best to leave the gastrostomy tube in place, since his illness was quite severe and esophageal dilatations were postponed. As he convalesced from the empyema, the tracheotomy tube was removed, then the gastrostomy tube, and finally the empyema cleared up completely (Fig. 5).

The patient was dismissed from our care, July 23, 1920, feeling perfectly well. The pharyngeal opening was about 1.8 cm. in diameter.

The patient is treating the pharyngeal stricture by dilating it with his index finger; the esophageal strictures are being dilated from time to time by sounds, using a previously swallowed silk thread as a guide.

Fig. 5.—Patient at time of dismissal.

COMMENT

Most authors believe that, in the treatment of laryngopharyngeal cicatricial diaphragms, dilatations and small cuts into the scarred opening in different directions give the most satisfactory results. Axhausen [2] has treated two cases by means of a pharyngotomy and plastic operation, in order to replace the scar tissue in the pharynx. He reports very satisfactory results from this treatment, and believes that it is better than the continuous dilatation which is necessary to prevent a recurrence of the stricture.

The interesting points in our case are that (1) the laryngopharyngeal stricture was the result of swallowing lye; (2) the patient earned his living for two years while he wore a tracheotomy tube and a gastrostomy tube, feeding himself by means of chewing food and spitting it into the gastrostomy tube funnel, and (3) at one time he carried three tubes, tracheotomy, gastrostomy and empyema, and ultimately was able to get along without any of them and is now following his vocation.

2. Axhausen, G.: Die operative Behandlung der supralaryngealen Pharynxstenose durch Pharyngotomia externa und Lappenplastik, Arch. f. klin. Chir. **107**: 533-550, 1916.

Diagnosis of Intestinal Obstruction.—The diagnosis of intestinal obstruction is based on a trinity of signs: (1) severe spasmodic pain, (2) evidence (visible, audible or palpable) of increased peristalsis, (3) inability to pass flatus per anum. In acute cases persistent and frequent vomiting is valuable additional evidence. When these symptoms are present the first thing to do is to examine the hernial sites with the greatest care, because a strangulated hernia is the most common cause of intestinal obstruction. It is one still too often neglected, if the patient has overlooked the presence of a hernia, or has attached no importance to the swelling.—R. Morison, *Brit. M. J.*, March 27, 1920.

NUTRITIONAL WORK IN PUBLIC SCHOOLS

FINAL REPORT OF EXPERIMENTAL WORK DONE UNDER THE SUPERVISION OF THE BOARD OF EDUCATION IN THE PUBLIC SCHOOLS OF CHICAGO

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CHICAGO

A preliminary report[1] was published in THE JOURNAL in July, 1920, of an experiment in five of the Chicago public schools, under the supervision of the Chicago Board of Education. This experiment was instituted with the idea of determining the practicability of putting nutritional work into the schools for children of preindustrial age: to determine whether or not the per capita expense would be prohibitive.

A further report was made in THE JOURNAL in November,[2] giving tabulations and the results of the work done during 1919 and 1920. The gains in height and weight, in excess of normal, were, respectively, 41 and 40 per cent.

The accompanying tabulations of the work done in eight of the public schools for the half-year period 1920-1921 are presented in the hope that the increased percentage of gains and the conclusions drawn may be of value to other communities also seeking a rational solution of the problem of undernourishment in children of the preindustrial age. Approximately 500 children have been included in these nutritional classes, and in the half-year period they have gained 121 per cent. in weight and 64 per cent. in height, in excess of the normal gain.

From the gross percentages of gains in weight and height have been deducted the normal increase, though we recognize the fact that, being all the way from 10 to 30 per cent. below normal, these children could not possibly have gained even that amount had they been left to themselves.

In this age when children have so little of the old-fashioned childhood, and are allowed to decide things for themselves long before their judgment is mature, one solution of the problem would seem to be to give them a keen sense of their own responsibility and to teach them to think and act accordingly.

TABLE 1.—HEIGHT AND WEIGHT RECORD OF FOUR HUNDRED AND NINETY-FOUR CHILDREN IN EIGHT CHICAGO PUBLIC SCHOOLS*

			Height Record						Weight Record						
School			Normal Increase, In.	Excess of Less Than Normal, In.	Less Than Normal, In.	Net Increase, In.	Gross Increase, %	Excess of Normal, %	Normal Increase, Lbs.	Excess of Less Than Normal, Lbs.	Less Than Normal, Lbs.	Net Increase, Lbs.	Gross Increase, %	Excess of Normal, %	Period
Hamline:															
22 Girls	I		9.0	7.9	0.1	15.8	176	76	51.7	85.9	1.5	136.9	265	165	4 Mos.
21 Boys	II		14.6	6.0	0.6	20.0	137	37	50.5	54.1	0.6	113.0	190	90	
18 Boys	III		12.8	4.7	1.6	15.9	124	24	30.7	30.9	12.2	68.4	130	30	
61			36.4	18.6	2.3	51.7	142	42	161.9	170.9	14.3	318.3	198	98	
Mitchell:															
22 Boys	I		16.6	7.7	1.6	22.7	137	37	65.1	68.9	4.2	107.7	165	65	4 Mos.
21 Girls	II		10.3	7.1	0.6	16.8	163	63	45.0	65.5	0.9	109.6	243	143	
14 Girls	III		9.2	4.8	1.3	12.7	138	38	34.8	32.8	0.1	68.5	197	97	
13 Boys	IV		9.5	3.0	0.3	12.2	129	29	30.0	18.6	1.4	50.2	144	44	
71			45.6	22.6	3.8	64.4	141	41	183.9	184.8	6.7	342.0	184	84	
Wells:															
18 Boys	I		12.2	6.8	1.2	17.8	145	45	61.6	51.0	3.6	109.0	177	77	4 Mos.
20 Girls	II		5.5	11.4	0.4	16.5	300	200	45.3	68.4	0.3	111.4	246	146	
38			17.8	18.2	1.7	34.3	192	92	106.9	116.4	3.9	220.4	206	106	
Montefiore and Washington:															
19 Boys	I		10.4	18.3	0.2	28.5	274	174	60.4	43.4	0.9	102.9	170	70	4 Mos.
19 Girls	II		6.1	5.5	2.0	9.6	157	57	48.5	68.5	0.3	116.7	241	141	
38			16.5	23.8	2.2	38.1	231	131	108.9	111.9	1.2	219.6	202	102	
Haines:															
14 Boys	I		9.3	4.6	0.9	13.0	140	40	38.1	46.8	2.8	82.1	215	115	4 Mos.
14 Girls	II		5.4	5.2	0.0	10.6	196	96	32.5	44.7	2.1	76.1	227	127	
28			14.7	9.8	0.9	23.6	160	60	71.6	91.5	4.9	158.2	221	121	
Dante:															
13 Boys	I		10.2	5.4	0.1	15.5	152	52	42.4	37.2	5.7	73.9	174	74	4 Mos.
8 Girls	II		3.6	3.7	1.0	6.3	175	75	22.4	21.1	0.8	42.7	190	90	
21			13.8	9.1	1.1	21.8	158	58	64.8	58.3	6.5	116.6	179	79	
Franklin:															
24 Boys	I		18.7	12.5	0.9	30.3	162	62	86.7	67.1	7.5	146.3	169	69	4½ Mos.
26 Girls	II		9.5	14.4	0.3	23.6	248	148	63.7	53.5	3.6	113.3	178	78	
50			28.2	26.9	1.2	53.9	191	91	150.4	120.4	11.1	259.6	172	72	
Lindblom H. S.															
40 Girls	I		9.2	8.5	4.0	13.7	149	49	72.8	140.1	2.8	210.1	288	188	4 Mos.
37 Girls	II		8.7	8.2	2.1	16.9	194	94	67.6	138.7	4.9	221.4	328	152	
39 Girls	III		7.6	7.5	3.2	12.0	158	58	67.7	144.4	3.9	208.2	308	208	
36 Girls	IV		8.4	6.3	2.3	11.4	136	36	66.2	129.4	5.7	191.9	284	184	
35 Girls	V		7.4	5.0	2.4	10.0	135	35	72.1	143.0	2.3	213.8	296	196	
187			41.3	35.5	14.9	64.0	155	55	368.4	695.6	19.6	1,044.4	284	184	
Summary:															
Boys	163	9	114.4	69.0	7.5	175.9	154	54	503.5	298.0	20.0	689.5	171	71	
Girls G.	144	8	58.6	60.0	5.7	111.9	191	91	344.9	439.2	9.6	775.2	225	125	
Girls H. S.	187	5	41.3	35.5	14.9	64.0	155	55	368.4	695.6	19.6	1,044.4	284	184	
	494	22	214.3	164.5	28.1	351.8	164	64	1,216.8	1,530.8	69.2	2,480.1	221	121	

Total enrolment of classes..... 537
Total enrolment tabulation..... 494
Withdrawals..... 13

* G., grade school; H. S., high school.

1. Rich, Katharine B.: Study of Nutrition and Mental Development in Childhood, J. A. M. A. 75:226 (July 24) 1920.
2. Rich, Katharine B.: Nutritional Work in Public Schools, J. A. M. A. 75:1492 (Nov. 27) 1920.

Our teaching, consequently, has been along this line primarily, putting the responsibility of their gains squarely on their own shoulders and teaching them how to assume it. They have also been given simple but definite ideas of food values—but not caloric values—of growth stimulants, of personal hygiene, of rest, of regularity of habits, and the like, and it has been their business to carry out and apply what has been taught them. They have also had to get the cooperation of their parents themselves, or go without it unless they have asked the help of the nutritional worker in explaining their needs to the people at home. It has been their business, too, to see that any defects of teeth, tonsils or eyes were attended to and corrected unless, again, they asked for help in making the arrangements.

The results obtained in weight and height are not really indicative of what might be done under favorable conditions, for all nutritional workers that we have had have been employed in other capacities, doing our work as it could best be done without too greatly interfering with their regular duties, to which they had to give their best efforts and strength.

CONCLUSIONS

The conclusions drawn from the experiment are these:

1. It is entirely possible to carry on nutritional work in the public schools without rest periods or free milk, and obtain appreciable gains in weight and height.

2. It is also possible to place the responsibility for their gains on the children, to their great advantage and with a saving of the nutritional worker's time.

3. It can be done without seriously interfering with studies or classes, and both mental and physical gains more than compensate for the small amount of time lost.

4. One efficient nutritional worker can, at a minimum, teach and care for, and do clerical work necessary for 400 children each week. (This is allowing for less than thirty children to a class, and a well-trained worker can easily handle thirty-five.)

5. It is not an expensive per capita proposition, handled along the lines of instruction as outlined.

6. The percentage of gains can be greatly increased over what we have obtained if all-time workers are employed, and if the work has the unqualified backing and support of the school authorities, thus dignifying it as being part of the regular school program.

COMMENT

Fifty per cent. of the schoolchildren that were weighed and measured were found to be below normal in height and weight for age, or in weight for height, and that would approximate the findings in other localities, in all probability.

The country-wide interest that has been aroused in the subject of undernourishment has come none too soon; but unless that interest is wisely directed, it will do as much harm as good. It should, primarily and justly, be the problem of the medical profession, of the pediatrician, and particularly of the family physician. For the benefit of the coming generations it might very wisely be given great emphasis in the teaching of the pediatric departments of our medical schools.

31 North State Street.

TABLE 2.—DISPENSARY RECORD, SEPT. 15, 1920, TO JAN. 28, 1921

	Vision	Chronic Otitis Media	Special Nose Examination	Dental Complete	Dental Care	Tonsillectomy	Special Tuberculosis Goiter Treatment	Special Tuberculosis Examination	Urinalysis	Special Orthopedic Examination	Wassermann Test	Pediculosis	Miscellaneous	Total
Dante	..	..	..	6	8	3	..	..	..	..	..	4	..	21
Franklin	1	1	..	2	2	2	..	..	..	..	..	..	..	8
Haines	2	..	1	8	14	1	1	1	..	..	..	..	..	28
Hamline	6	..	..	5	3	18	..	..	1	..	1	..	..	34
Mitchell	2	..	..	17	5	2	2	..	..	..	..	..	..	28
Montefiore and Washington	..	..	..	1	..	1	..	..	..	1	..	..	..	3
Wells	9	..	..	7	7	5	..	..	1	..	..	2	..	31
Lindblom High School	7	..	..	15	12	4	..	..	..	..	..	..	6	44
Total	27	1	1	61	51	36	3	1	2	1	1	6	6	197

THE QUINOTOXIN MYTH*

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Some writers, especially in chemical and pharmaceutical journals, have attributed the toxic effects of quinin to the formation of a more toxic substance, "quinotoxin," or quinicin, as it is more properly called. This may be formed from quinin under suitable conditions, especially in the presence of free organic acids. It has been assumed that these conditions would arise in the stomach, and, also, that prescriptions containing quinin and an organic acid would be dangerously incompatible.

An examination of the data on which these assumptions were based reveals that these fears are not justified by the facts; that at most insignificant traces of quinotoxin could be formed in the body or be present in such prescriptions, and that the formation of considerable quantities would not be dangerous.

The error arose originally from exaggerated conceptions of the toxity of quinotoxin, and was fostered by unproved assumptions as to the amounts that might be formed under practical conditions.

"QUINOTOXIN" A MISNOMER

The name "quinotoxin" is probably in part responsible for the misconceptions. It is incorrect historically, suggests false theories, and leads to confusion with another, quite different, substance. It should be abandoned, and displaced by the perfectly good name bestowed on it by its original discoverer. Pasteur, in 1853, first prepared this substance and a corresponding derivative of cinchonin, and named them chinicine and cinchonicine. The terms chinotoxin and cinchotoxin (and chinatoxins, collectively) were applied forty years later by Miller and Rohde [1] who prepared these derivatives by a slightly different method. In this, they disregarded not only the fact that these substances had already received a name, but also the fact that the name chinatoxin had been applied eleven years previously by Ostermayer (1884) to an entirely different

* From the Department of Pharmacology, Western Reserve University School of Medicine.

1. Miller, W. von, and Rohde: Ber. d. chem. Gesellsch. 28:1056, 1895.

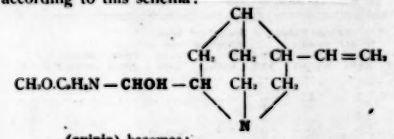
substance (diquinolin-dimethylsulphate). This is likely to lead to serious confusion. The anglicized terms of Pasteur will, therefore, be used exclusively in the following discussion.

CHEMICAL RELATION OF QUINICIN AND CINCHONICIN TO QUININ AND CINCHONIN

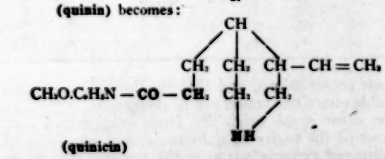
The structure of the cinchona alkaloids is not fully understood, as they have not been synthetized. It is fairly complex. That of quinin may be expressed as $\underset{(a)}{CH_3O.C_9H_6N.}\ \underset{(b)}{CHOH.}\ \underset{(c)}{C_8H_{13}N.}\ \underset{(d)}{}$

It includes a quinolin ring (*b*), to which are attached in the para positive a methoxyl (*a*), and a pyridin derivative ("loipon") (*d*), through a CHOH linkage (*c*). Replacement of the methoxyl by other alkyl groups does not destroy the action, but may even fortify it (Fränkel, Arzeneimittelsynthese). Omission of the group, however, greatly weakens the antimalarial efficiency, but increases the convulsive action. This is cinchonin, $\underset{(a)}{H.C_9H_6N.}\underset{(b)}{CHOH.}\underset{(c)}{C_8H_{13}N.}\underset{(d)}{}$. Replacement of the CH_3OH by OH gives cuprein.

Quinicin and cinchonicin are formed when quinin or cinchonin are heated with acids. They have the same elementary formulas as quinin and cinchonin; but a rearrangement has occurred in the loipon and connecting link (*d*) and (*c*). It is generally believed that the linking CHOH in *c* is hyrolyzed to CO, the H being transferred to the adjacent C and N of the loipon, forming an imid group, and breaking the benzene ring, according to this schema:



(quinin) becomes:



(quinicin)

Formation of Quinicin and Cinchonicin by Acids.—Pasteur prepared quinicin by heating quinin with dilute sulphuric acid at 120 C. At 100, however, Biddle [2] found that dilute mineral acids (to normal) convert only from 2 to 3 per cent. of the cinchonin, while weak organic acid (acetic, etc., ten thousandth normal) transform 95 per cent. The conversion is independent of the dilution or dissociation. Similar results were obtained independently by Rabe.[3]

At from 36 to 38 C. the conversion proceeds very slowly, even with organic acids, so that at most from 0.2 to 1 per cent. are converted in forty-eight hours. The concentration of cinchonicin probably does not increase with longer heating, for there is a parallel transformation of cinchonicin into an insoluble resin.

Some conversion into cinchonicin occurs also in sunlight, and more slowly in diffused light; but this also is converted into resin. The formation of cinchonicin or quinicin may be judged by the dark discoloration (Biddle). Quinin behaves in all these respects essentially like cinchonin.

2. Biddle, H. C.: J. Am. Chem. Soc. **24**: 500, 1912.
3. Rabe: Ber. d. chem. Gesellsch. **43**: 3308, 1910.

Amount of Quinicin Formed in the Stomach.—Only insignificant traces of quinicin could be formed in the stomach. The hydrolysis of quinin occurs, so far as known, only in acid mediums. This would confine its possible production in the body to the stomach. Kaufmann [4] found that traces of cinchonicin are formed by warming cinchonin with 0.1 per cent. hydrochloric acid. Biddle denies this, but suggests that the transformation would occur when organic acids are present in the stomach, as is not infrequently the case. Both writers overlook the time factor. They found only traces transformed after one or two days, whereas the quinin would remain in the stomach for only a few hours. They also overlook the fact that toxic effects of quinin occur at least as frequently if the quinin is given by channels other than the stomach.

Formation of Quinicin in Prescriptions.—Biddle's work leaves no doubt that this would occur if quinin were subjected to prolonged boiling with organic acid; but there would be no occasion for this in prescribing. It would also be formed at ordinary temperature, but only very slowly; and its parallel conversion into insoluble resin would prevent its accumulation.

There is no doubt that solutions of quinin containing excess of organic acids would very slowly lose their activity, and, for this reason, old, discolored or precipitated solutions should not be dispensed; but there is no reason to apprehend danger from them. Even the changes occurring after a long time in capsules of acetylsaliclic acid and quinin hydrochlorid, as reported by Scoville,[5] are more important by the liberation of salicylic acid than by the formation of quinicin.

Actions of Quinicin.—Hildebrandt [6] asserted that this is not convulsive, that it has a digitoxin effect on the frog heart and that it raises the blood pressure slightly. Biberfeld [7] found this toxicity for mammals quite low (lethal dose, 15 mg. per kilogram by vein; 200 mg. hypodermically, corresponding to about ½ ounce in man). In this large dose, it produced convulsions. It did not have a digitoxin effect on the exposed frog heart, but depressed it like quinin. It also depressed other smooth muscle; it produced local anesthesia similar to quinin, but was not antipyretic.

Actions of Cinchonicin.—The toxity of this is also low. Hildebrandt found the hypodermic lethal dose as 150 mg. per kilogram for mice (equivalent to 10 gm. for a man). The same dose of cinchonin was not toxic. Hunt [8] obtained about the same number for cinchotoxin (310 mg.) as for quinin (370 mg.). Rabbits seem considerably more susceptible. Biberfeld, minimum fatal dose, hypodermically, 10 mg. per kilogram; Fraenkel, fatal dose, hypodermically, 20 mg. per kilogram; Hildebrandt, cat, fatal dose, hypodermically, 20 mg. per kilogram. Death is preceded by violent convulsions.

Hildebrandt described a slight rise of blood pressure. Biberfeld found depression of the circulation. Fraenkel, in the exposed heart, observed first very strong contractions, then diastolic arrest.

CONCLUSIONS

There is no occasion to fear toxic effects from the transformation of quinin into "quinotoxin" (more properly, quinicin). This substance is not especially

4. Kaufmann, A.: Ber. d. chem. Gesellsch. **46**: 1823, 1913.
5. Scoville, W. L.: J. Am. Pharm. A. **4**: 590, 1915; Bull. Pharm. **28**: 527, 1915; ibid. **29**: 174, 1915.
6. Hildebrandt, H.: Arch. f. exper. Path. u. Pharmakol. **80**: 127, 1908.
7. Biberfeld, J.: Arch. f. exper. Path. u. Pharmakol. **79**: 361, 1916.
8. Hunt, Reid: Arch. internat. de pharmacod. **13**: 500, 1903.

toxic, and it could not be formed in significant quantities, if at all, in the body.

It may be formed in prescriptions containing quinin and organic acids; but this would proceed very slowly, and the quinicin would undergo further transformation into inactive products. Such solutions are perfectly proper if used within a few days. They should not be used after prolonged standing, when they become discolored and precipitated; not because they have become toxic, but because they have become inactive.

TWO SMALL OUTBREAKS OF TYPHOID FEVER PROBABLY DUE TO A CARRIER *

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R. G. PERKINS, M.D.
AND
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In the winter of 1919-1920, one of us was consulted about an intermittent series of seven cases of typhoid fever, two of which terminated fatally, occurring among the students of a girls' school in a neighboring community.

FIRST SERIES

A survey disclosed the following conditions: The students of the school were housed in scattered cottages, where they obtained two meals. Their noonday meal was eaten in the school cafeteria in the main building. The town water supply was used for the school and cottages, and in the main buildings was obtained through bubble fountains which practically eliminate the common drinking cup factor. The milk supply came from a farm owned by the school which also at times supplied others in the community. Foodstuffs were purchased in the open markets and were also supplied in part by the school farm. No cases of typhoid had been reported in the locality, and at this time there were no cases save in the school. Thus the source of infection was apparently not common to community and school. The cafeteria was conducted by two supervising teachers and by students assigned in a rotary service as assistants, but in a rush period any of the students might be called on to assist for a few minutes or a longer period of time, and of these assistants no record was kept.

The seven patients lived in four different cottages, and met only in certain classes and in the cafeteria for luncheon. Personal histories excluded out-of-town infection with the possible exception of one home visit of one girl near the incubation period. The students were not close associates, and had not been in any one place away from the school where infection might have been obtained.

A carrier was searched for, presumably an individual who had recently joined the school and might have handled food. There were sixteen such students and teachers. Stool examinations were made from these persons, twelve in duplicate and four once only, with uniformly negative results. All students were inoculated against typhoid, and the school authorities did not desire the investigation to be carried further at this time.

* From the Department of Hygiene and Bacteriology, Western Reserve School of Medicine, and the Bureau of Laboratories, Cleveland Health Division.

SECOND SERIES

In the fall of 1920, however, typhoid again appeared in the community. This series involved three students and two other persons connected indirectly with the school. The first patient was not a student but was the 4-year-old child of the farm dairyman. Three new and uninoculated students became ill with typhoid later, and about the same time a high school teacher, whose only contact was her noonday meal at the school cafeteria. The only other case in the community was that of a boy living in an outlying district and having no connection with the school.

Personal histories of the five patients showed that none had been out of town near the incubation period except the high school teacher, who had been in a neighboring city for one day and had eaten two meals there in the same restaurant. She denied having eaten at any other place besides her home and the school in the same period. The three students were not close associates and came from different cottages, and there was no evidence that any of them had been where there was a typhoid case or an infected water or food supply.

Our attention was directed to a source common to the farm and the cafeteria, as the 4-year-old child had not visited the latter place; and the high school teacher had contact with this school only through the luncheon period. Specimens of stools were obtained from the eight men employed by the school, all of whom might have handled food, and also from four teachers and from 106 students who might have handled food in the cafeteria. Two specimens were obtained from each on different occasions, except in the cases of ten students and one teacher from whom only one specimen could be obtained. All were negative except the two specimens of one farm laborer. Nineteen urine examinations from nineteen individuals, including the farm laborer, were negative.

Unless the stool is received shortly after being passed, there is a marked increase of the colon organisms but practically none of the typhoid and, as the laboratory was some 18 miles distant from the school, this presented a serious difficulty. We therefore decided to reverse matters and to bring the medium to the stool rather than the stool to the medium, so that inhibitory action might begin at once. According to the technic employed, test tubes of brilliant green peptone water,[1] in a dilution of 1:200,000, which had been found experimentally to give the best results, were taken to the school and inoculated with a small loopful of fresh feces by the school nurse. The tubes were then brought to the laboratory within four hours, giving us the specimen with the colon growth inhibited. The tubes were incubated for twenty hours at 37 C. and plates made on eosin methylene blue agar.[2] These were incubated twenty-four hours and suspicious colonies transferred to tubes of Russell's medium and incubated for twenty-four hours. A second reading of the plates was made in forty-eight hours, and any additional suspicious colonies were likewise placed on Russell's medium. Those cultures showing typical typhoid reactions in Russell's medium were examined morphologically, and, if still suggestive, were tested for agglutination. One of us (E. R. M.) paralleled the eosin methylene blue plates with Endo medium plates.

That the farm laborer was responsible for the two outbreaks of typhoid could not, of course, be proved;

1. Browning: Applied Bacteriology, Chapter VI.
2. Teague, O.: J. Infect. Dis. 18: 596 (June) 1916.

but the evidence is fairly conclusive: 1. He had been employed by the school for a period of only three years, and typhoid fever outbreaks had occurred in two of these years and not previously. 2. In his duties he must have handled foodstuffs which were served in the cafeteria uncooked. 3. While he denies having had typhoid fever, it was stated by others that during a previous epidemic he had a mild case of "walking typhoid." The dairyman claimed that the man in question had never handled milk, but it was well known that the men of the farm interchanged work frequently. The character of the outbreaks pointed either to an intermittent carrier or to a carrier who only occasionally had opportunity to infect food, as would be the case with the present carrier. It must also be kept in mind that at least half the school had received antityphoid inoculations within a year, and that all the cases in the second series occurred in the uninoculated.

SUMMARY

In investigation of two small intermittent outbreaks of typhoid fever, a carrier was found who could have been responsible for both.

A method of obtaining satisfactory specimens of stools for examination some distance from the laboratory was used with success.

ALKALI TOLERANCE IN PELLAGRA *

M. X. SULLIVAN, PH.D.

SPARTANBURG, S. C.

In work with urine [1] in 1917 it was found that a considerable number of patients showed a tendency to an increase in the output of ammonia either relative to the total nitrogen or absolutely. The urinary findings suggested that in some cases, at least, there might be a greater or less depletion of the alkali reserve.

Accordingly, late in the summer of 1917, a study of the alkali reserve was started by means of the alveolar air method and by the estimation of the carbon dioxid bound by the blood plasma. The study of the alkali reserve by these two methods was continued during 1918 and 1919.

Of fifty-six patients tested by Sullivan and Stanton [2] for alkali reserve by the alveolar air method following the Plesch [3] technic as modified by Higgins,[4] and described in detail by Marriott,[5] and by the estimation of the carbon dioxid bound by the blood plasma according to the Van Slyke and Cullen [6] method, using the Van Slyke [7] carbon dioxid apparatus and with collection of the blood under oil without stagnation of blood or loss of carbon dioxid, none showed a marked depletion of the alkali reserve, about one third showed a slightly subnormal level, while the greater number were within normal limits. The patients as a whole, however, tended to minimum normal levels by both methods. Further, of those patients tested for the alkali reserve by the two methods spoken of, a number showed an increase in the output of urinary ammonia.

In view of the fact that the pellagra patients studied in 1918 and 1919 could be considered on the whole as but minimum normals with respect to the alkali reserve, and that in a number of cases there was an increase in urinary ammonia, it became of interest to test out the effect of administration of sodium bicarbonate on the reaction of the urine. It has long been known that large quantities of alkali are necessary to make the urine alkaline in diabetes. Sellards found that large amounts of sodium bicarbonate are necessary to make the urine alkaline in Asiatic cholera [8] and in nephritis.[9] Sellards calls this phenomenon "alkali tolerance," and concludes that it indicates a condition of acidosis. Palmer and Henderson [10] independently studied the relation between administration of sodium bicarbonate and the reaction of the urine. They suggest that a condition of acidosis may be assumed to exist when the administration of a quantity of alkali equivalent to 1 liter of tenth normal solution of sodium bicarbonate, approximately 8 gm. of sodium bicarbonate, fails to produce a diminution in the acidity of the urine. As put by Van Slyke and Cullen,[6] the extremely practical alkali retention test devised independently by Sellards and by Palmer and Henderson appears to be an indirect measure of the bicarbonate content of the body fluids as represented by the plasma.

In our work, Sellards' procedure, as given in his recent publication,[11] was followed. According to Sellards, it is quite sufficient to give 5 gm. of sodium bicarbonate by mouth every two or three hours until the urine becomes neutral or alkaline to litmus. Under normal conditions the ingestion of 5 gm. of sodium bicarbonate is promptly followed by the excretion of at least part of this amount in the urine, the reaction of the urine to litmus changing from acid to alkaline in the cold or on heating.

EXPERIMENTAL DATA

As soon as possible after the patient's admission to the hospital, a twenty-four hour sample of urine was collected for analysis with attention to the ammonia content.[12]

The the venous carbon dioxid tension was determined by the Plesch method. On a subsequent day the tolerance to alkali was tested by the administration by mouth of sodium bicarbonate dissolved in several hundred cubic centimeters of water. At 9 o'clock in the morning the urine was voided; and 5 gm. of sodium bicarbonate in water was given to each patient and then every two hours until the urine was at least faintly alkaline. Before each administration of the bicarbonate the urine was voided and tested. As judged primarily by the extent of the erythema and dermatitis, and secondarily by the state of malnutrition and general weakness, the patients, with a few exceptions, had mild cases of pellagra. The results of the alkali tolerance study are given in the accompanying table.

Of the fifteen pellagra patients mentioned in the table, when tested by the alveolar air method two (Cases 68 and 78) showed a marked acidosis, three (Cases 51, 59 and 67) showed a mild acidosis, while ten were within normal limits. As regards alkali tolerance,

* From the Pellagra Hospital, U. S. Public Health Service.

1. Sullivan, M. X.; Stanton, E. E., and Dawson, P. R.: Metabolism in Pellagra: A Study of the Urine, Arch. Int. Med., to be published.
2. Sullivan, M. X., and Stanton, E. E.: The Alkali Reserve in Pellagra, Arch. Int. Med. **20**: 41 (July) 1920.
3. Plesch: Ztschr. f. exper. Path. u. Therap. **6**: 380, 1909.
4. Higgins: Pub. 203, Carnegie Institute of Washington, p. 168, 1915.
5. Marriott, W. M.: The Determination of Alveolar Carbon Dioxid Tension by a Simple Method, J. A. M. A. **68**: 1594 (May 20) 1916.
6. Van Slyke, D. D., and Cullen, G. E.: J. Biol. Chem. **30**: 289 (June) 1917.
7. Van Slyke, D. D.: J. Biol. Chem. **30**: 347 (June) 1917.
8. Sellards: Tolerance for Alkalis in Asiatic Cholera, Philippine J. Sc. B, Med. Sc. **5**: 363, 1910.
9. Sellards: Bull. Johns Hopkins Hosp. **23**: 289, 1912.
10. Palmer, W. W., and Henderson, L. J.: Clinical Studies on Acid Base Equilibrium and the Nature of Acidosis, Arch. Int. Med. **12**: 153 (Aug.) 1913.
11. Sellards, A. W.: The Principles of Acidosis and Clinical Methods for Its Study, Cambridge, Mass., Harvard University Press, 1917.
12. A report of this urine work will be published later by Sullivan and Dawson.

only four of these fifteen pellagra patients showed a tolerance to sodium bicarbonate (Cases 51, 59, 68 and 78). Of these four patients, one (Case 78) came to the hospital very weak, with diarrhea, unable to retain food in the stomach, and died within a few days. In this case, the urine was still acid after the administration of 20 gm. of bicarbonate, when on account of the patient's condition, which was not improved by sodium bicarbonate, the administration of the bicarbonate was stopped; one of the others (Case 68) was admitted in a precarious condition with heavy diarrhea for some time, but ultimately greatly improved and left the hospital in good condition. The urine in this case, as tested in the severe stage of the disease, was acid, even after the administration of 50 gm. of sodium bicarbonate. In Case 51, the patient on entrance was very weak with heavy diarrhea. The tolerance test was not made until the diarrhea had abated considerably. At the time for testing, it required 15 gm. of bicarbonate to make the urine slightly alkaline to litmus. In Case 59, without diarrhea, the urine was slightly acid after 15 gm. of bicarbonate. Of the four patients showing a varying degree of tolerance to sodium bicarbonate, three had diarrhea, and one of these patients was unable to retain food. In the cases in which there was diarrhea and the case in which the patient was unable to retain food, it is possible that more or less of the bicarbonate was not absorbed. One patient with no diarrhea showed a mild tolerance to bicarbonate. None of the patients showed an absolute increase in the ammonia output, though two (Cases 68 and 74), with a small excretion of total urinary nitrogen, gave a relatively large ammonia nitrogen ratio.

With only a few exceptions, then, the pellagra patients tested showed no tolerance to sodium bicarbonate. It would seem, however, that with severe diarrhea a condition of acidosis may obtain, as evidenced by a lowered carbon dioxid tension in the alveolar air, and a tolerance to sodium bicarbonate administered by the mouth.

VENOUS CARBON DIOXID TENSION AND ALKALI TOLERANCE IN PELLAGROUS AND IN NONPELLAGROUS INDIVIDUALS

Case Number	Venous Carbon Dioxid Tension	Grams of Bicarbonate to Render Urine Alkaline to Litmus	Total Nitrogen of Urine	Ammonia Nitrogen of Urine	Ammonia Nitrogen per Cent. of Total Nitrogen	Status of Pellagra
47	40	5	15.5775	0.3651	2.34	Mild, complicated with gonorrhea
49	40	5	11.2761	0.3568	3.17	Mild
51	30-35	15	7.093	0.5407	7.62	Severe; complicated; intestinal parasites
53	35	5	4.8806	0.3332	6.83	Mild
55	40	5	9.6917	0.1316	1.36	Mild
56	35	5	4.1037	0.1531	3.73	Mild complicated
59	30	15	8.2875	0.2976	3.59	Mild
62	35	5	11.0419	0.4222	3.82	Mild
63	40	5	10.9026	0.7120	6.49	Mild
67	30	5	5.5800	0.2741	4.91	Moderate
68	20-25	More than 50	2.6933	0.5742	21.32	Severe; very weak
70	35	5	6.4407	0.3525	5.47	Mild
74	35	5	4.9448	0.4757	9.58	Severe dermal type
76	40	5	7.9869	0.2926	3.29	Mild
78	20	More than 20	.....	.....	....	Severe; died
Control 1	45	5	15.2126	0.8158	5.36	Nonpellagrin; excellent condition
Control 2	40	5	9.7710	0.3402	3.48	Nonpellagrin; excellent condition
Control 3	35	10	2.2420	0.3471	11.02	Undernourished; gonorrheal; nonpellagrous
Control 4	35	Alkaline before administering bicarbonate; alkaline 2 hours after giving 5 gr. $NaHCO_3$	4.2336	0.1841	4.35	Nonpellagrin; cerematous

GENERAL CONCLUSIONS

The data on venous carbon dioxid tension and alkali tolerance of the pellagra patients at the Pellagra Hospital in 1920 support the findings obtained with more marked cases of pellagra in 1918 and 1919 by the venous carbon dioxid tension method and by the carbon dioxid bound by the blood plasma, that, as a rule, the alkali serve in pellagra, though tending somewhat downward, is within normal limits. Of fifteen patients tested, only four showed an increase in tolerance to sodium bicarbonate. Of these four patients, only two showed a marked tolerance, and these two patients had a severe diarrhea.

SO-CALLED PLEOMORPHIC STREPTOCOCCI FROM HUMAN RESPIRATORY TRACT*

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KATHERINE ROGERS, S.M.

AND

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CHICAGO

Pleomorphism is not uncommon among bacteria. The classic example is the group of diphtheria bacilli. During the last few years a number of workers both in this country and abroad have noted the finding of streptococci in the nose and throat—particularly but not exclusively in influenza—having more or less varied morphologic characteristics. These have sometimes been designated as "diplostreptococci" and described as having flattened sides or as elongated, or they have shown a considerable variety of pleomorphism, with club-shaped organisms as well as elongated forms. Ribbert [1] described such organisms during the influenza epidemic of 1889-1890. In the 1918 epidemic, Little, Garofalo and Williams,[2] Averill, Young and Griffiths,[3] Whittingham and Sims,[4] and Donaldson [5] in England isolated pleomorphic streptococci. The latter investigator described a pleomorphic streptococcus which he designated as the "D" organism and suggested a possible connection between disease and the pleomorphic state. In the same year, Mathers [6] in this country isolated a pleomorphic streptococcus from influenza which produced flat, moist confluent colonies. Tunnicliff,[6] Jordan,[7] Zingher [8] and Rosenow [9] have also reported the Mathers coccus, while Keegan [10] and Synnott and Clark [11] found pleomorphic organisms but with a different colony appearance. Bernardt,[12] and

* Influenza Studies, V, from the Department of Hygiene and Bacteriology, the University of Chicago.

1. Ribbert: Centralbl. f. Bakteriol. 7: 700, 1890.
2. Little, Garofalo and Williams: Lancet 2: 34 (July 13) 1918.
3. Averill, Young and Griffiths: Brit. M. J. 2: 111 (Aug. 3) 1918.
4. Whittingham and Sims: Lancet 2: 865 (Dec. 28) 1918.
5. Donaldson: Lancet 2: 723, 1918; Brit. M. J. 2: 701, 1918.
6. Mathers, George, quoted by Tunnicliff, Ruth: Phagocytic Experiments in Influenza, J. A. M. A. 71: 1733 (Nov. 23) 1918.
7. Jordan, E. O.: J. Infect. Dis. 25: 28 (July) 1919; Pub. Health Rep. 34: 1413, 1528, 1919.
8. Zingher, Abraham: Atypical Form of Streptococcus Viridans, J. A. M. A. 72: 1020 (April 5) 1919.
9. Rosenow, E. C.: Prophylactic Inoculation Against Respiratory Infections, J. A. M. A. 72: 31 (Jan. 4) 1919; Studies in Influenza and Pneumonia, ibid. 72: 1604 (May 31) 1919.
10. Keegan, J. J.: The Prevailing Pandemic of Influenza, J. A. M. A. 71: 1051 (Sept. 28) 1918.
11. Synnott, M. J., and Clark, Elbert: The Influenza Epidemic at Camp Dix, N. J., J. A. M. A. 71: 1816 (Nov. 30) 1918.
12. Bernardt: Lancet 2: 234, 1919; Med. Klin. 15: 683, 1918.

Meyer and Kolle,[12] Segale [14] in Germany, and Ciauri [15] in Italy have studied organisms which appear to belong to this group. Findley [16] isolated diplostreptococci during the influenza epidemic in Egypt.

In 1919, Crookshank [17] reported pleomorphic streptococci which resembled those isolated by Rosenow from poliomyelitis in 1916-1917. Fry [18] and Beaumont [19] have isolated organisms similar to those described by Donaldson. Beaumont obtained them in a variety of morphologic states from sputum, feces, urine and pleural effusions of influenza patients. Sherwood and Downs [20] found pleomorphic streptococci in 25 per cent. of normal throats examined, and obtained agglutination with the serum of such persons in 1:100 dilution. Davis [21] has studied opsonins for pleomorphic streptococci in poliomyelitis, as has Tunnicliff in influenza.

In 1920, Clawson [22] isolated these cocci from peritonitis, pneumonia and from normal persons, and Oppenheim [23] found instances among fecal streptococci. We have continually found pleomorphic streptococci on blood agar plates made from nasopharyngeal swabs in influenza and colds and from normal persons.

In view of the interest recently aroused in regard to these organisms, we deemed it worth while to make a series of careful morphologic, cultural and serologic observations to determine whether or not any significance could be attached to them in connection with infections of the upper respiratory tract. For this purpose we chose from our stock twenty strains, fifteen of which showed unmistakable pleomorphism while five were nonpleomorphic. Seven of the twenty were hemolytic streptococci and the remainder green producers. Six strains were from influenza cases, eight from acute rhinitis, three from pharyngitis and three from tonsillitis. To these twenty strains we later added others from the throats of normal individuals. All our strains were gram positive (Sterling method), although in the preparations gram negative organisms were invariably present with the positive. All fermented milk, with the formation of acid and coagulation of the casein. The carbohydrate fermentations were varied. All fermented dextrose, lactose, saccharose, maltose, levulose, galactose and mannose. Eleven fermented raffinose, seven fermented dextrin, six fermented salacin, five fermented arabinose, three fermented xylose and three inulin, and two fermented mannite. Dulcite was not attacked by any strains. There was no correlation between carbohydrate fermentations and source of organisms, action on blood or pleomorphism. Both solid and liquid mediums were used in studying these fermentation reactions. We obtained indication of acid formation in a shorter time on the solid mediums, but the final results did not differ. The same was true of the two indicators used—bromcresol purple and Andrade's. The latter is slightly more sensitive.

The final hydrogen-ion concentrations attained in ten carbohydrates for sixteen of our strains were also determined, but yielded nothing capable of correlation with other properties.

Complete serologic tests on our series of organisms were not made, but sufficient work was done to show that we were dealing with a heterogeneous group.

The strains which we termed "pleomorphic" were those showing, in a preparation stained according to Gram's method (Sterling modification), organisms with a variety of shapes and sizes. These shapes ranged from strict coccus to bacillary forms, and included principally elongated and oval or flattened cocci. Rarely were club or spindle shapes observed, and we never encountered the more fantastic forms recorded by some of the English workers. The stock strains were kept on blood agar slants and transferred every ten days.

Comparative observations of pleomorphism were made from growths in blood agar, milk and dextrose, lactose and inulin broths. Stained preparations were made after fifteen and forty-eight hours and daily for six days. After the second or third day, débris (probably from dead cells and material precipitated from the medium on account of the increased acidity) appeared in increasing amount, and the stains ceased to be of interest. No striking differences were found except when the H-ion concentration of the medium was varied. A p_H of 7.2 gave more pleomorphism than a p_H of 7.6. The latter has usually been regarded as a more favorable reaction for streptococci. Pleomorphism also developed more quickly in inulin broth (not fermented by most of our strains) than in dextrose broth.

The work of Clark and Ruehl [24] suggested hourly observations. These were made in dextrose broth. During the first few hours the cells were small, although sometimes long chains were seen. The size and tendency to chain formation increased up to nine or ten hours, and then the size decreased. This is in agreement with Clark and Ruehl's records. Pleomorphism was observed as early as the second hour, and never disappeared.

During the study, some of our nonpleomorphic strains began to show pleomorphism. This was followed up by obtaining records of all our strains over a long period, transfers to blood agar slants (p_H 7.6) being made every ten days. At the end of fourteen weeks all of our originally nonpleomorphic strains showed evidence of pleomorphism, and morphologically could not be distinguished from the others. We obtained freshly isolated nonpleomorphic strains, but in every case pleomorphism was observed after the organisms had been carried for some time on blood agar slants. Blood agar plates were used with the same result.

It was thought that possibly some enzyme or toxin was secreted during growth of the cells which would influence the production of the various forms. Portions of a filtrate from a broth culture of a very pleomorphic strain were added to sterile broth tubes and these inoculated, together with a series of controls. No difference in development of pleomorphism was observed, showing that if a toxin is produced it is not of a diffusible character.

CONCLUSIONS

The pleomorphic streptococci are not a homogeneous group. Both hemolytic and green producing types developed pleomorphism. The indications are that any strain of mouth streptococci may show pleomorphism if grown for a sufficient length of time on artificial mediums. It is probable that the development of pleomorphism is connected with relatively unfavorable conditions for growth. These, of course, may exist in the mouth under normal or pathologic conditions as well as on laboratory mediums.

13. Influenza, abstr. J. A. M. A. 71:1573 (Nov. 9) 1918.
14. Segale: Pathologica, Genoa 11:1, 1918, from Lancet 2:234, 1919.
15. Ciauri, R.: Policlinico 25:924 (Sept. 29) 1918; abstr. J. A. M. A. 71:1700 (Nov. 16) 1918.
16. Findley: Lancet 1:1113, 1919.
17. Crookshank: Lancet 1:313, 1919.
18. Fry: Lancet 2:51 (July 12) 1919.
19. Beaumont: Lancet 2:234 (Aug. 9) 1919.
20. Sherwood and Downs: J. Infect. Dis. 24:133 (Feb.) 1919.
21. Davis, W. M.: J. Infect. Dis. 24:176 (Feb.) 1919.
22. Clawson: J. Infect. Dis. 26:92 (Feb.) 1920.
23. Oppenheim: J. Infect. Dis. 26:117 (Feb.) 1920.
24. Clark and Ruehl: J. Bacteriol. 4:615, 1919.

Clinical Notes, Suggestions, and New Instruments

HYPOCHLORHYDRIA, A POSSIBLE CAUSE OF PERSISTENT ERYTHEMA MULTIFORME

ALFRED SCHALEK, OMAHA

Erythema multiforme is a comparatively common condition representing 1 per cent. of all skin diseases. Little is known about its etiology; theories of micro-organisms, hematogenous and intestinal toxins and anaphylaxis all have their supporters. The eruption is usually of short duration, and clears up with simple treatments. It is in the exceptional cases, which are persistent and have greatly weakened the general health of the patient, at times assuming the character of a systemic disease, that the physician realizes his helplessness.

Two severe, persistent cases of erythema multiforme came under my observation recently. The patients had gone through the hands of several physicians, and the disease had resisted all treatment. After having tried the usual treatments for a time with indifferent results, I was fortunate enough to control the eruption in a remarkably short time by finding the presence of hypochlorhydria and correcting this condition. The limited experience allows no definite conclusions, but the results are sufficiently striking to justify further investigations along this line. The first case was typical, while the second might have suggested pemphigus, though the characteristic location, the multiformity, the subjective symptoms, and the recovery after correction of the underlying condition excluded it.

REPORT OF CASES

CASE 1.—Mrs. O. V. J., aged 28, whom I saw, Feb. 20, 1920, had had frequent eruptions of erythema multiforme during the last year with lesions of erythematous and vesicular types, distributed over the forearms, hands and legs. The itching was severe, causing considerable distress. The general health was normal, except for chronic indigestion. The attacks came in crops, following each other closely, especially after indiscretions in eating. Dieting and local applications gave only temporary relief. The last attack had persisted for two months, new lesions appearing continually. In several analyses of the stomach contents, hydrochloric acid was found to be very much reduced. Administration of 20 drops of dilute hydrochloric acid, three times daily after meals, with no change of the local applications, cleared the skin completely in a week. No recurrence has been reported at the present date, one year later.

CASE 2.—Mrs. H. H., aged 26, whom I saw, Feb. 11, 1921, had given birth to a child three years before. One year later the present eruption appeared and had continued up to the time of consulting me, with periods of exacerbations and remissions, irrespectively of seasons. Her general health was good, except that she suffered from constipation and had several bad teeth, which were extracted. She had lost about 15 pounds in weight during the last year. The eruption was extensive over the forearms and hands, and the inner sides of the thighs. The lesions were of urticarial and bullous type, many being dried in the center, forming iris-like rings and varying in size from ¼ to ½ inch. The buccal mucous membranes were involved, several lesions on the lips causing considerable edema and interfering with the opening of the mouth. Broken down bullae were present on the palate and around the uvula, which were very painful and interfered with swallowing. The itching was severe, making rest and sleep impossible. The patient was nervous, depressed and weakened from lack of food and sleep. On the assumption that the trouble was of intestinal origin, the patient had been kept on a strictly limited diet for a long period of time without any improvement. A stomach analysis, made by Dr. George P. Pratt, revealed a considerably reduced amount of hydrochloric acid after test meals. The patient was given 20 drops of diluted hydrochloric acid, three times a day, and the bowels were regulated. Improvement of the skin condition followed rapidly. The old lesions were dried up three days later, and no new lesions have appeared since. At the present date, the patient is free from the eruption, the itching has subsided, and the lesions in the mouth are healed, permitting the swallowing of solid food without trouble.

TRACTION DEVICE FOR USE WITH THOMAS SPLINT*

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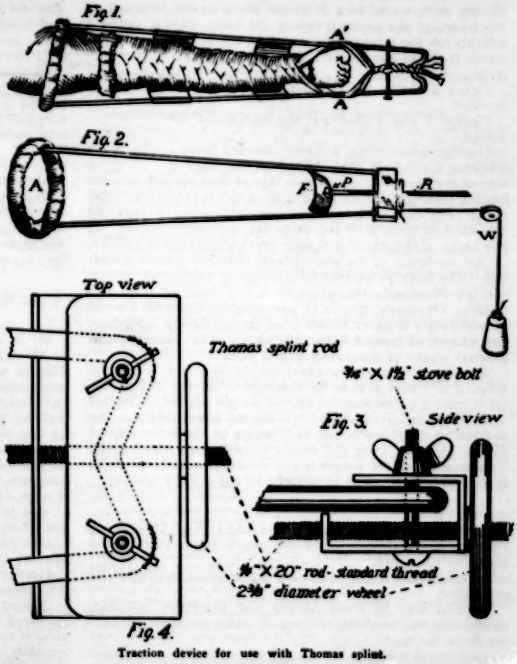
During my service abroad as orthopedic surgeon of a base hospital I came in daily contact with the Thomas splint, as these splints were used almost exclusively and in large numbers in our wards. It seemed that, with the exception of some difficulties with the method of obtaining traction, this type of splint was as near perfection as possible. Extension was obtained in the usual manner of fastening the traction strips to the end of the splint and obtaining tension by twisting a piece of nail or stiff wire inserted between the strips just above the lower end of the splint (Fig. 1). Objections to this method can be raised only with regard to its applicability in private institutions. For transportation from first aid stations to the rear it was excellent, but for the more permanent use in private practice it would seem that my device is an improvement.

In the former method, as may be seen in Figure 1, we found it necessary continually to replace frayed-out ropes and



Traction device for use with Thomas splint.

* From the clinic of Santa Barbara Cottage Hospital.

sometimes adhesive traction strips; furthermore, continual readjustment was necessary, owing to the stretching of the material used for obtaining traction. I tested with a spring balance the amount of tension obtained (Fig. 1) by one complete twist of the nail, and found this to be equal to from 3 to 5 pounds. This represents too much pull. Finer gradations of traction are essential both for the comfort of the patient and for successful union of the fracture. Many times the patient complains of discomfort from pressure of the ring on the buttocks, necessitating loosening of the tension bands by untwisting the nail through an arc of 180 degrees. As the nail cannot be held at any intermediate point, this means from 3 to 5 pounds' loss of weight. It may readily be seen that such sudden fluctuations in tension, necessitated by frequent readjustments, tend to pull the plaster from the leg and to mobilize the site of fracture, the latter being a factor in nonunion. Furthermore, at least 50 per cent. of the entire amount of traction is neutralized by the friction at points *A, A'*. This means that when a 15 pound pull is exerted on the leg there would be a 30 pound stress on the rope and on the hands of the person twisting the nail. This is rather a difficult job for a nurse; furthermore, the lateral stress tends to approximate the splint at points *A, A'*.

Figure 2 shows the traction device ready to function.

Figures 3 and 4 illustrate the mechanism involved.

The foot piece (Fig. 2 *F*) is removed by unscrewing a wing nut from the rod on the concave side of the foot piece. Adhesive tape is then applied over the convex side of the foot piece and to the patient's leg. The rod *R* (Fig. 2) is then inserted through the adhesive tape and into the foot piece at *P* and made fast with the wing nut. A few turns of the wheel will now exert the necessary tension.

One revolution of the wheel exerts exactly 1 pound of traction. The leverage exerted by this type of mechanism is such that at 50 pounds the wheel is easily revolved with two fingers. Obviously, this is of advantage in enabling a nurse to manipulate it under orders from the physician. Then, too, any amount of tension is possible and easy to obtain through gradual stages of accurately gaged pull.

In using this means of obtaining tension it is suggested (Fig. 2 *W*) that a rope be extended from the end of the splint over a pulley and the desired weight applied. Traction is then obtained gradually by turning the wheel until the ring portion of the splint is felt to impinge on the tuberosity of the ischium and over the ramus of the pubis (Fig. 2 *A*). This means that the weight is just neutralized and that there is pull on the leg equal in amount to the utilized weight.

ADVANTAGES

The mechanism may be applied to any type of Thomas leg or arm splint, irrespective of the length of the limb or the length of the splint.

The apparatus is easy to make, the material costing about one dollar.

Traction may be finely, slowly and accurately adjusted, eliminating the breaking of traction strips and their loosening from the leg.

That lateral tension on the splint, the expenditure of unnecessary muscular effort by the attendant, and sudden deviations in tension are done away with, thus giving the patient less pain and discomfort with greater chances for successful union.

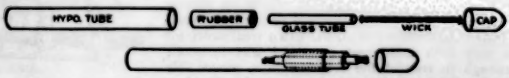
Illiteracy of Children.—That many American born children are growing up illiterate is shown by figures given in the seventh annual report of the chief of the Children's Bureau of the U. S. Department of Labor. Of 19,696 children between 14 and 16 years old, to whom certificates were issued, more than one fourth could not write their names legibly. Nearly 10 per cent. had never gone beyond the first grade and considerably more than half were in the fourth grade or lower when they left school. Only about 3 per cent. were in eighth grade and about one in a hundred had reached high school. These children were native Americans. Of the whole number, only twenty-four were foreign born.

IODIN SWAB FOR STERILIZING SITE OF HYPODERMIC PUNCTURE

CYRIL J. MARSHALL, M.D., SANFORD, FLA.

Having frequently had difficulty in finding alcohol or iodin, and a cotton swab for sterilizing the site before giving a hypodermic injection, I have devised an iodin swab which fits nicely in the case alongside the syringe, and is always present with the latter.

The only material necessary to make the swab consists of two empty hypodermic tablet tubes, a bit of small rubber catheter, three-fourth inch long, of a size to slip inside the tube, 1 inch of very small glass tubing, and a little thread for a wick. The thread is loosely twisted, about eight strands, and pulled inside the small glass tubing. This, in turn, is put in the section of rubber tubing, one of the tablet tubes is half filled with iodin, and the assembled glass, rubber and wick are slipped in the end of the iodin tube, making a tight fit. About one-eighth inch of the wick is left protruding beyond the end of the glass tube; this becomes saturated with the iodin, and is used as a swab. A cap for the outfit is made by heating the other empty tube in the flame, about half an inch from the open end, melting and drawing it in two, thus closing the open section, and forming a tight cap which fits over the wick. The whole may now be carried with perfect safety in the hypodermic case.



Contrivance for sterilizing the site for a hypodermic puncture. It may be carried in the hypodermic case.

A CASE OF LOCALIZED ARGYRIA

B. BARKER BEESON, M.D., CHICAGO

W. B., a white man, aged 46, a book-packer, consulted me at the Chicago Policlinic because of a discolored nose. In 1914 he noticed a number of pimples on his nose which he was induced to treat by boring a silver nitrate crayon into each lesion. This was done once a month for about a year. Following each treatment a blackish crust would form and be cast off in a week or ten days. Several months after he had apparently removed all of the pimples from his nose he noticed that the lower half of that organ, to which the silver had been applied, was darker than the surrounding skin; and it grew darker until, when seen, it was of a bluish-black hue. It was tolerably uniform over the lower half of the nose, a darker spot here and there apparently showing where the crayon had been bored into the skin. Save for its color the affected area did not differ from the adjacent skin, since it did not exhibit thickening, scaling or sensory disturbance. An examination did not detect any other evidence of argyria.

Consent to a biopsy was refused after the patient had been informed of the hopelessness of his case, so that I was not able to ascertain just how far the silver had penetrated into the skin. Unna says that it is not found in the epidermis but is limited to the corium, being especially abundant in the elastic fibers.

A review of the literature and the leading works on dermatology seems to indicate that cases of this character are unusual. This is indeed of interest in view of the extensive use of silver salts. Kaposi stated in his work on skin diseases that it is remarkable that argyria has not been observed even locally after the countless cauterizations of the skin with silver nitrate in cases of lupus vulgaris.

Lewin and Blaschko have observed localized argyria in silver workers. In them minute particles of the metal became detached during the various processes, such as filing, turning and polishing, to which it had been subjected. These tiny foreign bodies apparently penetrated the epidermis lodged in the corium. It was believed that in these cases, just as in those due to ingestion, the silver was first changed into a soluble salt from which it was reduced and then deposited.

At no time has my patient been a worker in silver, nor has he used any such preparation except as already mentioned. His trouble was due solely to his ill-advised self-tattooing. This case may well serve as a warning against the local use of silver preparations save by those who are familiar with their action.

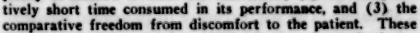
32 North State Street.

A NEW GASTRODUODENAL CATHETER

A. L. LEVIN, M.D., NEW ORLEANS

The secrets of the duodenal sanctum sanctorum, the meeting place of bile and pancreatic juice, are being investigated and studied more and more every day. There are great hopes that the analysis of duodenal contents will eventually bring forth a new method, by the aid of which diseases of the gallbladder and pancreas will be more easily recognized and diagnosed. A fractional duodenal analysis will probably be of as much value as a fractional gastric analysis, and become a daily laboratory routine in gastro-intestinal work. The reasons for it are: (1) the comparative ease and simplicity of method to enter the duodenum; (2) the comparatively short time consumed in its performance, and (3) the comparative freedom from discomfort to the patient. These three factors, in my opinion, will in the near future lead to a greater popularization of gastric and duodenal analyses than heretofore.

The large size stomach tube, undoubtedly, still has its place in a selected group of cases; but in the large run of gastro-intestinal cases, it should be looked on as a relic of medical and surgical clumsiness. With the appearance on the medical horizon of the new method of medical drainage of the gallbladder, the introduction of a new tube and the selection of an easier route will be an item of interest to the medical



Gastroduodenal catheter: length of tube, 45 inches or more; markings at 18, 22 and 26 inches.

profession. The old stomach tube, the Einhorn and Rehfuss buckets, and the Jutte tube have disadvantages which have been removed in this newly designed catheter. There is no metal bucket attachment; it has a velvet eye at its terminal end exactly like a urethral catheter; the side openings are oval and larger than in the Jutte tube; there is no division in the middle for the introduction of a stylet, as there is no need for one; it is one continuous long catheter, and can be made in three sizes, No. 16 and 14 French and a No. 10, or infantile. The thickness of the rubber is the same as that of a urethral catheter. I advocate for gastric analysis and duodenal intubation the nasal route instead of the oral which is being daily used. The advantages of the nasal route are: There is no tickling of the soft palate, no choking sensation, hardly any excessive production of pharyngeal mucus, and a great deal less discomfort. The fear and anxiety and struggle on the part of the patient is a thing of the past, especially if the patient is instructed to sip some water slowly. I have tried it hundreds of times with practically no struggle whatever on the part of the patient.

The advantages of the new catheter may be thus summarized:

1. The absence of metal at the tip and the quality of the rubber facilitate its introduction through the nose or mouth.

2. When suction is applied, the walls of the tube are not likely to collapse, as is the case with the Jutte tube.

3. The openings are less likely to become blocked by food or mucus on account of their large size and their velvet eye.

4. There is no need for a stylet.

5. It can easily be introduced through the nose even when the patient is under anesthesia. The surgeon, before closing the abdomen, can pull it through the gastro-enterostomy opening or pylorus, and in that way introduce fluids into the duodenum after an operation.

6. It is less likely to curl on itself in the stomach.

7. It is easier to withdraw the tube because there is no metal bucket at the end.

8. The tube is plainly visible fluoroscopically even without the metal tip.

9. The drainage of bile is easier than with the Jutte tube.

A little experience with this catheter will convince the medical profession of its great merits.

1222 Maison Blanche Building.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

ARSPHENAMINE (See New and Nonofficial Remedies, 1921, p. 41).

Arsphenamine-Squibb.—A brand of arsphenamine.

Manufactured by E. R. Squibb & Sons, New York, under U. S. patent Nos. 986,148 (March 7, 1911; expires 1928), 1,081,897 (Dec. 16, 1913; expires 1930), 1,081,592 (Dec. 16, 1913; expires 1930), and 1,116,398 (Nov. 10, 1914; expires 1931) by license of the U. S. Federal Trade Commission. Also licensed for interstate sale by the U. S. Treasury Department under the "act to regulate the sale of viruses, serums, toxins and analagous products" as conforming to the regulations for the control, sale and manufacture of arsphenamine; issued March 20, 1920.

Arsphenamine-Squibb 0.1 Gm. Tubes.—Each hermetically sealed tube contains arsphenamine 0.1 Gm.

Arsphenamine-Squibb 0.2 Gm. Tubes.—Each hermetically sealed tube contains arsphenamine 0.2 Gm.

Arsphenamine-Squibb 0.3 Gm. Tubes.—Each hermetically sealed tube contains arsphenamine 0.3 Gm.

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NEOARSPHENAMINE (See New and Nonofficial Remedies, 1921, p. 45).

Neoarsphenamine-Squibb.—A brand of Neoarsphenamine.

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Neoarsphenamine-Squibb 0.15 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.15 Gm.

Neoarsphenamine-Squibb 0.3 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.3 Gm.

Neoarsphenamine-Squibb 0.45 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.45 Gm.

Neoarsphenamine-Squibb 0.6 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.6 Gm.

Neoarsphenamine-Squibb 0.75 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.75 Gm.

Neoarsphenamine-Squibb 0.9 Gm. Tubes.—Each hermetically sealed tube contains neoarsphenamine 0.9 Gm.

SODIUM ARSPHENAMINE (See New and Nonofficial Remedies, 1921, p. 48).

Sodium Arsphenamine-Squibb.—A brand of sodium arsphenamine.

Manufactured by E. R. Squibb & Sons, New York, under patents Nos. 1,059,983 and 1,078,135 by license of The Chemical Foundation, Inc. Also licensed for interstate sale by the U. S. Treasury Department under the "act to regulate the sale of viruses, serums, toxins and analagous products" as conforming to the regulations for the control, sale and manufacture of sodium arsphenamine; issued March 20, 1920.

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Sodium Arsphenamine-Squibb 0.3 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.3 Gm.

Sodium Arsphenamine-Squibb 0.45 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.45 Gm.

Sodium Arsphenamine-Squibb 0.6 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.6 Gm.

Sodium Arsphenamine-Squibb 0.75 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.75 Gm.

Sodium Arsphenamine-Squibb 0.9 Gm. Ampules.—Each hermetically sealed ampule contains sodium arsphenamine 0.9 Gm.

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SATURDAY, APRIL 9, 1921

FLUKE INFECTIONS AND SNAILS

A number of different clinical classes of fluke infections or trematode disease have long been recognized to occur in man. According to the region most involved, the resulting malady is usually classed as pulmonary, hepatic, intestinal or venal. It would also be possible to differentiate them according to the particular invading organism present, for more than one species of trematode have been found to be concerned in the etiology of human fluke infections. Most readers of The Journal will doubtless think of trematode disease as of Asiatic or African incidence, classifying the cases among tropical or subtropical maladies. Nevertheless, fluke infections are by no means unknown in countries of temperate climate. When it is realized that there are endemic areas in Formosa, Japan and South Africa, for example, in which more than half the population is reputed to harbor flukes of some sort,[1] the importance of the problem of control of trematode infection looms up large.

A recent writer has pointed out that, like malaria and hookworm disease, fluke diseases are comparatively seldom fatal in themselves but are particularly injurious in causing loss of efficiency, reduced vitality, and lowered resistance to other diseases. The long duration and relative incurability of fluke infections are a very serious factor. In this respect fluke infections are far more to be feared than are infections with intestinal parasites, most of which are relatively easy to expel. No decisive progress in the management and eradication of other highly important parasitic invasions of the human body was accomplished until the life history and habits of the parasites were carefully worked out. In the case of human flukes, information in this direction has been rather meager and incomplete until recently. The work of Leiper[2] on *Schistosoma* in Egypt, of Kobayashi[1] on *Clonorchis* in Japan, and of Nakagawa[1] on *Paragonimus* in Formosa has brought much clarity and furnished a more definite basis for preventive measures against all these trematode parasitic invaders of man. According to Chandler,[3] in every case of fluke infection of man or domestic animals in which the life cycle of the parasite has been worked out, it has been shown that fresh-water snails act as necessary intermediate hosts. It appears, therefore, that if some efficient and practical method of destroying the snails could be found, this would furnish a logical point of attack in the control of all fluke diseases. Chandler states that other preventive measures are, of course, also valuable and could be used as supplementary measures—for example, the impounding of water before use for drinking or bathing as a preventive against *Schistosoma* infections, the discouragement of the habit of eating improperly cooked meat of crabs in the case of *Paragonimus* and of fish in the case of *Clonorchis*, and care in the disposal of feces and urine in all cases. The last, exclusive of individual mechanical protection against infection, is the only preventive measure that can be adopted against hookworm and many other intestinal parasites. To accomplish this in some warm countries where there has never existed anything approaching sanitation, and where the very idea of sanitation is so strange and foreign to the habits of life and thought of the natives, is well nigh impossible. The fact, therefore, that fluke infections may possibly be controlled by attack on an intermediate host instead of by reliance on the enforcement of sanitary regulations, Chandler asserts further, makes the ultimate eradication of these infections, in spite of their relative incurability, a matter of brighter prospect than is the case with many other verminous parasites.

The investigations of Chandler[3] conducted in Oregon and Texas in search of an inexpensive and harmless method of treating water to destroy snails have demonstrated that copper salts, even in high dilution, exert a powerful toxic effect on snails. In an experiment on eight species of six families, it was demonstrated that copper sulphate in proportions of 1 part to from 500,000 to 2,000,000 parts of water destroys snails of all these species within forty-eight hours; 50 per cent. or more are destroyed in dilutions up to 1:5,000,000. From the point of view of expense, harmlessness and convenience in use, copper sulphate is preferable, according to Chandler, to any other substance that has been tried or suggested for destroying snails. The eggs of the snails are not destroyed by the copper salts.

Copper sulphate has, of course, long been known as an effective algicide. It can be administered to bodies of water in ways already familiar through the procedures for destroying algae in water. The water thus treated is not rendered entirely unfit for drinking, bathing or irrigation purposes, although fish may be destroyed by the process. The value of any effective

1. Nakagawa, K.: Human Pulmonary Distomiasis Caused by Paragonimus Westermanni, J. Exper. Med. **20**: 297 (Sept.) 1917. Kobayashi, H.: On the Life-History and Morphology of Clonorchis Sinensis, Centralbl. f. Bakteriol. **75**: 299, 1915. Cawston, F. G.: Bilharziasis in South Africa, J. A. M. A. **70**: 429 (Feb. 16) 1918.

2. Leiper, R. T.: Report on the Results of the Bilharzia Mission in Egypt, J. Roy. Army M. Corps **8**: 1, 147, 253, 1915; **27**: 171, 1916; **30**: 235, 1918.

3. Chandler, A. C.: Control of Fluke Diseases by Destruction of the Intermediate Host, J. Agric. Res. **20**: 193 (Nov.) 1920.

mode of eradicating the intermediate hosts of pathogenic flukes lies not only in the domain of human preventive medicine but also in the protection of valuable domestic animals which suffer so extensively from trematode diseases. And prophylaxis is the more to be welcomed at present, as no unquestionably effective remedy for lung or liver flukes has been found. Although the use of tartar emetic has been suggested in the treatment of bilharziasis, or infection with the blood fluke *Schistosoma*, the outlook from such therapy is not promising because, as Chandler has pointed out, the serious symptoms of the disease are caused by the eggs of the worms deposited in the tissues, and often continue to exist long after the worms are dead. It would be interesting to watch a test of the newly proposed prophylactic procedures in snail eradication applied where fluke diseases are endemic.

COD LIVER OIL

Until recently cod liver oil—the oleum morrhuae of the U. S. Pharmacopeia—was generally considered to be a food rather than a medicine. The epitome of the U. S. Pharmacopeia and National Formulary, published by the American Medical Association, remarked as late as 1916 that the value of cod liver oil depends probably entirely on its nutritive property, while "Useful Remedies" asserts that it is generally considered to be a "tonic and nutrient." For many years, however, this peculiar fat has been regarded almost as a specific in the treatment of rickets. Clinical observation has frequently substantiated the belief that cod liver oil exerts a favorable influence on the course of this disease. American pediatricians [1] have lately noted how in the last fifteen years the study of the metabolism of children suffering from rickets has made it reasonably certain that the administration of cod liver oil alters the calcium balance in such a manner that calcium will be retained in the body. They further allege that the natural inference from both clinical observation and metabolic investigation was that cod liver oil increased the capacity of the skeleton to take up or hold calcium.

A new interest in the rôle of cod liver oil has been promoted by the demonstration, first made by Osborne and Mendel [2] in 1914, that this fat includes a liberal portion of vitamin A, frequently described as the fat-soluble food accessory. The importance of the latter for nutritive well-being, particularly in the young, has been abundantly verified experimentally on animals, and doubtless applies also to the human species.[3] Mellanby,[4] whose views have been championed by the English Committee for the Study of Accessory Food Factors,[5] has brought into prominence the possible rôle of the fat-soluble vitamin as an antirachitic agency. Although he has debated the validity of Mellanby's hypotheses, Hess [6] of New York has recently paid a fitting tribute in THE JOURNAL to the therapeutic value of cod liver oil. We are reminded in his lecture before the Harvey Society that this product has been used therapeutically for almost 100 years, but even today it has not been accorded its proper place in therapy. It is recognized as a drug which benefits nutrition; but the fact that it has unequaled value in the prevention and cure of rickets is hardly realized. The marked success attending the use of cod liver oil in districts where rickets is rampant has convinced Hess that it would be feasible to rid a locality of the disease by the use of this oil. Thus, there are approximately 125,000 children in New York City between the ages of 3 and 15 months, the period of greatest susceptibility to rickets. If we estimate generously, Hess writes, that the families of from one quarter to one third of these children are unable to purchase cod liver oil, and if we agree that the development of rickets may be prevented by giving a teaspoonful three times a day, then, at the present cost, rickets could be practically abolished in that city by the expenditure of about $100,000 a year. This, Hess concludes, is merely one of many instances in which the community does not get the full benefit of our medical knowledge.

Without venturing at this time to argue the extent to which vitamin content and antirachitic potency may be allied or identical in cod liver oil, it is surely of medical interest to secure some more explicit conception of what is involved. Zilva and Miura [7] of the Lister Institute in London have demonstrated recently that crude, unrefined cod liver oil may be 250 times as rich as butter in vitamin A, measured by the biologic method of animal feeding tests. Samples of refined cod liver oil secured in London, although not so active as the crude oil, were also far superior to butter in their vitamin potency. The British investigators do not hesitate to offer the opinion that this superiority in potency of cod liver oil to other substances is responsible for the remarkable results achieved with it therapeutically. Unfortunately, they add, in order to satisfy the requirements of the public there is a great tendency to produce brands of cod liver oil which retain little of the characteristic taste and which appear almost colorless. In order to achieve this, drastic means may often be employed which conduce to the partial or even total destruction of the accessory factor.

A quart of milk will furnish approximately an ounce of butter fat, which has heretofore been regarded as a sufficient source of fat-soluble vitamin to safeguard the

1. Shipley, P. G.; Park, E. A.; McCollum, E. V.; Simmonds, N., and Parsons, H. T.: Studies on Experimental Rickets, II, The Effect of Cod Liver Oil Administered to Rats with Experimental Rickets, J. Biol. Chem. **48**: 343 (Jan.) 1921.
2. Osborne, T. B., and Mendel, L. B.: The Influence of Cod Liver Oil and Some Other Fats on Growth, J. Biol. Chem. **17**: 401 (April) 1914.
3. A review of the subject is given by Mendel, L. B.: The Fat-Soluble Vitamine, New York State J. Med. **20**: 212 (July) 1920.
4. Mellanby, E.: J. Physiol. **52**: 11, 1918; **53**: 103, 1919.
5. Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines), Nat. Health Insurance, Medical Research Committee, Special Report Series, No. 38, 1919.
6. Hess, A. F.: Newer Aspects of Some Nutritional Disorders, J. A. M. A. **76**: 693 (March 12) 1921.
7. Zilva, S. S., and Miura, M.: A Note on the Relative Activity of the Fat-Soluble Accessory Factor in Cod-Liver Oil and Butter, Lancet **1**: 323, 1921.

well-being of the young, so far as this factor is concerned. If we may believe cod liver oil to be only thirty times as rich, the effective daily dosage can almost be measured in drops rather than ounces. There is food for reflection in these observations; also, need for renewed investigation. Finally, these observations serve to make the various "refinements" of cod liver oil products sold as proprietary preparations even more reprehensible than they have seemed in the past.

IS LEFTHANDEDNESS A SIGN OF INFERIORITY?

The number of persons whose eyes do not possess normal color vision is larger than the untutored are likely to suppose. Among men, from two to four out of every hundred are color blind, the proportion being somewhat smaller among women. Although this imperfection is usually congenital, it has not been regarded as a sign of inferiority; in fact, the earliest profound student of the subject, the eminent English chemist Dalton, himself was afflicted with a sort of color blindness which was for a time designated as Daltonism. The distinguished anatomist Waldeyer also was color blind.

Even larger is the proportion of persons who exhibit another physiologic peculiarity, lefthandedness, found in at least 4 per cent. of our population. There is considerable evidence to show that sinistrality, or lefthandedness, also is hereditary. It will come as a surprise to most persons who continually encounter the condition among their associates in everyday life to learn that a suspicion of relative inferiority in the organization of the central nervous system has been attached to the lefthanded. Quinan,[1] who has lately been investigating the question, suggests that the relatively frequent occurrence of speech defects, such as stammering, among them in comparison with righthanded persons points to a disadvantage in the execution of finely coordinated movements. He states that sinistrality is exceptionally prevalent among the feebleminded. In a survey made of approximately 600 men between the ages of 44 and 89 and including 7 per cent. of lefthanded persons, it was observed not only that stammering occurred with a frequency from three to seven times greater in the "sinistrals" than the "dextrals," but also that high arterial tension was comparatively more common in the lefthanded.

It would be rash to accept Quinan's conclusion that because lefthandedness, a hereditary peculiarity, has been given a reputation of association with defective organization of the central nervous system, therefore hereditary predisposition is a definite factor in the etiology of high blood pressure, and that high arterial tension is suggestive of constitutional inferiority. We cannot condemn a large number of our population on such slender evidence. Moreover, have we not the counterbalancing biblical evidence of the efficiency of the lefthanded in Judges xx: 15, 16:

> And the children of Benjamin were numbered on that day out of the cities twenty and six thousand men that drew sword, besides the inhabitants of Gibeah, who were numbered seven hundred chosen men. Among all this people there were seven hundred chosen men lefthanded; every one could sling stones at a hair breadth, and not miss.

1. Quinan, Clarence: Sinistrality in Relation to High Blood Pressure and Defects of Speech, Arch. Int. Med. 27: 255 (Feb.) 1921.

PHENOMENA OF ALLERGY IN DISEASES OF THE SKIN

The phenomena of anaphylaxis are in several striking instances apparently closely associated with the manifestations of familiar diseases that have in the past frequently baffled the physician. The existence of a state of allergy, that is, of altered reactivity of certain tissues of the body to specific proteins, has been postulated in a variety of conditions, notably in so-called serum disease, asthma and hay-fever. In many instances, systemic reactions are attended also with manifestations of cutaneous hypersensitiveness. In a comprehensive critical view of the present status of the problems of anaphylaxis, Wells [1] has remarked that the evidence with respect to the identity of these manifold indications of hypersensitiveness with true anaphylaxis is so contradictory as to defy positive conclusions. Some students go so far as to eliminate from the domain of anaphylaxis all the conditions manifested by cutaneous hypersensitivity, including the tuberculin reaction, hay-fever, and food and drug idiosyncrasies; whereas others, like Kolmer, believe that there are true anaphylactic skin reactions due to the interaction of a specific anaphylactic antibody and specific anaphylactogen largely within or without the cells, and with the formation of diffusible irritants capable of producing acute hyperemia, edema and leukocytic infiltration of the skin.

From the purely practical standpoint, the theory of the precise etiology of the cutaneous reactions, though important, is a matter of only secondary moment so long as the determination of specific sensitization can be made to afford diagnostic information or lead to remedial procedures. The results accomplished in the case of hay-fever, or pollinosis, have already been sufficiently encouraging to lead to extensive application of cutaneous tests with pollen solutions, and likewise of attempts at indicated protein therapy. In the domain of cutaneous disorders less progress has been made, although many unique instances of sensitization to particular foods have been brought to light, notably in the study of such allergy in infants and children.[2] Recently Engman and Wander [3] of the Washington University School of Medicine, St. Louis, have

1. Wells, H. G.: The Present Status of the Problems of Anaphylaxis, Physiol. Reviews 1: 44 (Jan.) 1921.
2. Schloss, O. M.: Allergy in Infants and Children, Am. J. Dis. Child. 19: 433 (June) 1920.
3. Engman, M. F., and Wander, W. G.: The Application or Cutaneous Sensitization to Diseases of the Skin, Arch. Dermat. & Syph. 3: 223 (March) 1921.

reported a study of the relative cutaneous reactions to various proteins, such as are now commercially available for such tests, in the case of a number of skin diseases which might be assumed to have some relationship to so-called protein sensitization. Four fifths of the persons afflicted with urticaria, and an equal proportion of cases of infantile eczema, showed positive sensitization to some protein. Blackfan has had a comparable experience with infants. In "chronic generalized eczema" a response was observed in more than one third of the patients. The percentage was almost negligible in such diseases as dermatitis herpetiformis, erythema multiforme, lichen urticatus, pemphigus and purpura hemorrhagica, although one might say that a sufficient number of cases of the latter diseases had not been investigated.

There is danger of undue enthusiasm in the light of so many positive reactions. Allergy must not be made a fetish in present day medicine. But it cannot be denied that the diagnostic and therapeutic possibilities of cutaneous sensitization tests by dermal methods deserves further careful study in connection with several common diseases of the skin. Only when a large experience has been recorded and critically evaluated can final pronouncements be made.

Some excellent results have already been secured through the regulation of diet in the light of skin test information. In referring to one group of cases, in infantile eczema, for example, Engman and Wander assert that the success of future treatment depends, first, on the accuracy with which the cutaneous sensitization test is performed and interpreted; secondly, on the accuracy in following the therapeutic path which that interpretation directs, and thirdly, on repeating tests at intervals to determine the exact status of the case in relation to protein sensitization. We are reminded that the consideration of the cases must properly include those proteins with which the patient may come in contact in his daily life, an extremely laborious study and one that requires time and patience. Finally, in our enthusiasm for the new field of study, the well recognized existence of drug allergy or cutaneous hypersensitiveness to nonprotein compounds must not be forgotten. Numerous authentic instances are on record, the latest being cases of susceptibility of several dentists to procain, leading to an occupation dermatitis whenever the drug was employed by them in their practice.[4] The clinical observations, together with the confirmatory results from skin tests, indicated an individual susceptibility.

4. Lane, C. G.: Occupational Dermatitis in Dentists: Susceptibility to Procain, Arch. Dermat. & Syph. 3:235 (March) 1921.

Instruction in Tuberculosis in Undergraduate Schools.—Relative to its importance, comparatively little interest is taken in instruction in the prevention, diagnosis, and treatment of tuberculous disease in the medical schools. There is not a single professor of tuberculosis in any teaching school in England or Ireland, and only two, both recently appointed, in the United Kingdom.—H. Gauvain, *Brit. J. Tubere.* 15:3, 1921.

Current Comment

QUALIFICATIONS TO TREAT THE SICK?

During the last fifty years the fundamentals of medical science and medicine in its broadest aspects have been increased and advanced to a greater extent than in all the previous centuries. The perfecting of the high-power microscope, the discovery of bacteria, the resulting knowledge in regard to the causation of most of the common diseases and in regard to asepsis and antisepsis, the extensive study of the changes in anatomic structures as a result of disease, the discovery of anesthetics and the development of surgery—all this has broadened extensively the field of medicine and increased the definite knowledge in regard to the origin, prevention and treatment of diseases. In fact, medicine in certain of its aspects has become an exact science, and this scientific trend is advancing with accelerated speed. During the last two decades, the medical schools in the United States have been extensively developed in accordance with this greatly enlarged knowledge of the science and the art of curative and preventive medicine. Thus at the present time the medical schools are qualified to teach, and are training their students to utilize this scientific knowledge in the diagnosis, prevention and treatment of disease. Diagnosis is placed first because it is the most important factor. Furthermore, during the last eight or ten years, a large majority of the graduates of medical schools have been trained in accordance with this broader knowledge of medicine, and it has been hoped that with improved facilities of graduate medical education the entire medical profession would become familiar with the greatly improved methods of diagnosis and disease prevention. These facts are well known to all intelligent laymen, who appreciate that modern medicine is able to accomplish what would have been considered impossible a quarter of a century ago. This is true not only in the surgical field, but also in the broader field—preventive and curative medicine. And yet, what is happening? In the legislatures in a number of states bills have been introduced which would grant to sectarians — such as osteopaths, chiropractors, naprapaths and numerous other "paths" and "ists," who are not only not trained in, but who also ignore if they do not ridicule, modern medical science—authority to assume all the rights, privileges and responsibilities of the fully trained and legally qualified physician. Some of the bills provide that these sectarians—whose practice heretofore has been limited to their particular methods of treatment—shall have the right to practice minor and major surgery and obstetrics; the right to use antiseptics, germicides and parasiticides, anesthetics, narcotics and antidotes, and even the right to sign death certificates—there are no other privileges to be desired! It is quite clear to all intelligent people, whether laymen or not, that no one should be authorized to assume all these privileges—and responsibilities—who does not possess the educational and professional qualifications such as are now furnished in well-established medical schools.

MILK AND THE SUBTLE MENACE OF "PATENT MEDICINE"

Like other secretions in the body, the milk is likely to contain a variety of substances which happen to be adventitious or casual constituents of the blood from which, in ultimate analysis, the components of the mammary product must be derived. It has long been known that milk may accordingly include "foreign" substances in solution. Not only can it acquire a foreign taste from some peculiarity of the food of the lactating animal, but compounds which pass into the milk by this natural path of glandular secretion may be of a character liable to produce untoward effects in those who consume it. Alkaloids, such as those contained in opium, alcohol and small quantities of salts of metallic elements, for example, have been recorded to occur in the milk of woman after these substances have for some reason found entrance into the maternal organism. As infants are susceptible to far smaller doses of toxic agents than are adults, the danger of introducing injurious substances in milk into the organism of the nursing child is one that must be reckoned with. How real the menace may be is well illustrated by a case recently reported by Van Der Bogert.[1] The discovery of a painful papulopustular eruption in a nursling 6 months of age led to the suspicion of bromin poisoning, whereupon the element was actually discovered in samples of the mother's breast milk. The source of the danger to the child was not far to seek. The lactating mother, a person of exceedingly nervous temperament, had become addicted to the use of a widely advertised proprietary remedy, "Miles' Restorative Nervine." This nostrum was investigated in the A. M. A. Chemical Laboratory in 1916 and was found to be essentially a solution of bromids in sugar syrup, flavored with oil of lemon and cloves, and preserved with sodium benzoate.[2] We have rehearsed a familiar story of secrecy, self-medication—and suffering, on the part of the innocent. Further comment is unnecessary.

THE CAPILLARIES AND ACIDOSIS

Many of the products of incomplete combustion in the body are of the character of "fixed" or nonvolatile acids. When they find their way into the blood they displace carbonic acid by combining with the alkali present, and thus the alkali reserve is reduced. This is a now familiar type of acidosis which is considered an abnormal if not a relatively hazardous condition. Physiologists have often inquired where the preliminary process goes on. Is it in the liver, in the muscles, or in some other conspicuous tissue? Reasoning that a damage to the capillary walls with a resulting decrease in permeability might prevent the adjacent tissues from receiving an adequate blood and oxygen supply, Wallace and Pellini[3] have studied the effects of substances which are known to produce such harm. As a result of their experiments at the University and Bellevue Hospital Medical College, New York, they have found that uranium, cantharidin, arsenic, and diphtheria toxin, which cause widespread capillary damage, bring about a definite acidosis, as shown by a decreased concentration of bicarbonate in the blood plasma. Podophyllotoxin and emetin, which appear to have an action seemingly confined to the intestinal capillaries, do not cause acidosis. The same thing is true of hydrazin, a recognized "liver poison." If acidosis may thus be one of the effects of "capillary poisons" of the type that produce structural changes, it should follow, so the New York pharmacologists argue, that other agents which interfere with an adequate supply of oxygen to the tissues in other ways would also cause acidosis. This seems to be the case; for nitrites, which induce methemoglobin formation, and cyanids, which prevent the utilization of oxygen by the tissues, bring about a marked acidosis. As marked damage to the liver and intestine may fail to induce acidosis, and the kidney also is not a necessary factor, Wallace and Pellini believe at present that the essential condition is an injury to the capillaries of the muscles.

1. Van Der Bogert, Frank: Bromin Poisoning Through Mother's Milk, Am. J. Dis. Child. **21**: 167 (Feb.) 1921.
2. Propaganda Department, J. A. M. A. **67**: 827 (Sept. 9) 1916. Reprinted in pamphlet "Epilepsy Cures" published by the American Medical Association.
3. Wallace, G. B., and Pellini, E. J.: Acidosis from Capillary Poisons, Proc. Soc. Exper. Biol. & Med. **18**: 115 (Jan.) 1921.

THE PANDEMICITY OF ENCEPHALITIS

Encephalitis in its most recent exacerbation appeared first in Austria in 1917, and reached France and England in the spring of 1918, Italy and the eastern half of the United States toward the end of 1918, Portugal in February, 1919, the Pacific Coast of America in October, 1919, India in November, and Spain in the early part of 1920. While these facts as to the appearance of outbreaks of the disease are known, there are no accurate statistics as to the exact case incidence of the pandemic. Information published in the reports of the British Ministry of Health, of the Department of Hygiene of the French government and by the United States Public Health Service indicates that the disease is quite prevalent throughout the world. These reports, however, emphasize more than anything else the necessity for making the occurrence of this disease reportable. The collection of accurate statistics regarding the incidence of such a disease is fundamental to its prevention and control.

THE COST OF TYPHOID

The recent typhoid epidemic at Salem, Ohio, is estimated to have cost approximately $450,000, reckoned as follows:

State emergency appropriation	$ 5,000
Red Cross allowance	50,000
Municipal appropriation	15,000
Medical expenses ($50 for each of 850 patients)	42,500
Private nursing expenses (200 cases at $100 each)	20,000
Loss of time by wage earners (one third of patients at $5 a day for six weeks)	60,000
Funeral expenses (50 deaths at $150 each)	7,500
Value of lives lost on basis of $4,000 for each one	200,000
Business losses due to lowered earning power and to avoidance of city by persons from outside	50,000
Total	$450,000

The economic disproportion between cause and effect is clearly seen in this case. The water supply of the town became contaminated by a broken tile pipe used for transmission of the water. This tile pipe had been installed instead of an iron pipe, before the state regulation of water works systems, at a saving of $1,500!

Association News

THE BOSTON SESSION

Special Railway Fares

In addition to the fares announced by the Trunk Line Association (THE JOURNAL, March 12) and by the Central Passenger Association (THE JOURNAL, March 19), the Western Passenger Association has authorized a similar reduced fare. The Western Passenger Association announces round trip tickets to Boston from points within its territory, to be sold at the rate of a fare and one-half to the New England boundaries, plus double fare therefrom to Boston, on presentation of identification certificates to the ticket agents at the time of purchase of tickets.

These tickets will be on sale from June 1 to 5 inclusive, with final return limit of June 13 from points served by the Western Passenger Association in Illinois, Iowa, Minnesota, Missouri, Northern Michigan and Wisconsin.

From Kansas, Nebraska, North Dakota and South Dakota, the selling dates will be from May 31 to June 4 inclusive, with final return limit of June 14.

From Colorado, Idaho, Montana, Utah and Wyoming, the selling dates will be from May 29 to June 2, inclusive with final return limit of June 16.

The validating dates for return on all of these tickets will be from June 3 to June 11, inclusive.

Members who desire to take advantage of special railroad fares should mail requests for identification certificates, accompanied by addressed stamped envelops, to the Secretary of the Association, Dr. Alexander R. Craig, 535 North Dearborn Street, Chicago. These requests will not be acknowledged, but will be given attention as soon as the certificates are available.

Special Tours to Boston

The Chicago Medical Society, as previously announced (THE JOURNAL, March 5) through the Harlan-Spears Tours has arranged for a special train between Chicago and Boston. Those who use this special train going and returning by the same route, by taking advantage of the special rate from Chicago, will make a saving of $16 on the rate previously announced by the Harlan-Spears Tours Company.

ANNUAL CONFERENCE ON MEDICAL EDUCATION AND HOSPITALS, LICENSURE AND PUBLIC HEALTH

(Concluded from page 940)

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION OF THE AMERICAN MEDICAL ASSOCIATION

Annual Conference, held in Chicago, March 30, 1921

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., in the Chair

Rural Health Centers as an Aid to General Practitioners

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: This paper appears in this issue, p. 983.

DISCUSSION

DR. FRANK BILLINGS, Chicago: On the practitioner of medicine himself all reforms must be built if we are to make any headway in meeting the confusion and dissatisfaction that prevail in our own country. When I say practitioner, I mean the family physician, the one who made significant investigations in earlier days. He has not disappeared entirely. Occasionally one finds him in the country, rarely in the city. The training of the family physician in the old days was not equal to what it is today, yet he was a resourceful man. He met every emergency. He was the adviser of the family in all conditions relating to health, to morals, and to the education of the children in the family. He was a good therapeutist and depended on the use of a few simple drugs. Such men are born. The difficulties arising today are due primarily to specialism and to our medical colleges having gone wrong. The curriculum of the undergraduate medical school should be modified in order that we may again educate and have these resourceful men. When we can have such men, who are not looking for large fees in surgery or in any specialty, who will be attracted to other places than the large cities, it will be much better for the community.

Today our urban population is bigger than the country population. Every one is attracted to a city, including physicians. The competition and difficulties of living in a city are great. To meet the conditions of modern medicine, the country practitioner should be attracted to remain in a rural region, but not only should he have the facilities which he may need in modern practice, but social conditions should be made better. Any well qualified practitioner of medicine can deal with 75 per cent. of his patients without any other means of practice than his brain, his special senses, his hands, and a few simple instruments which are always at hand. The people themselves should pay for the facilities of hospitals and other facilities for their own care. Therefore, any measure for the improvement of health, including treatment, must be carried on in the community and by the community itself, and not outside. We shall not succeed in anything unless it is for the public good, and what is for the public good will be for our good, for we are a part of the public.

What We Have Done in Iowa

DR. F. E. SAMPSON, Creston, Iowa: We believe that the rural health center is a good thing, and we are urging it because it will promote medical practice in rural regions. The Iowa enabling act has been in force ten years. My own experience has been with the development of a hospital service in a city of less than 10,000 population, in the middle of a rural area containing upward of 100,000 people. From that has grown the idea that if one county does not contain enough people, to unite the people of several counties, having ultimately a county hospital in each county as a central institution. The rural health center is essentially a hospital, such as is provided under the county public hospital law of Iowa, plus certain specified departments of service and state supervision of local management. Enabling laws in a measure standardize the proposed service and legalize the purchase of the rural center plan in case the country and small town folk see fit to buy and tax themselves to pay for it.

While the rural health problem cannot be solved by methods considering it as a detached and isolated proposition, it can be solved by intelligent and sustained cooperation of the several organizations working on a definite program which recognizes the rural health problem as vitally and organically related to that of the great cities with their established teaching and training hospital.

A service bureau maintained by the American Medical Association, with a staff of competent field workers to help state medical societies develop their county medical societies into coordinated working units, a rural hospital service bureau from which a group of rural counties may obtain competent help in surveying the local situation, formulating and putting over suitable plans for establishing and maintaining hospital service, would be splendid things.

The institution we have organized was coddled along by a few individuals for nearly a quarter of a century, during which time it improved from a five bed affair in a rented cottage to a fifty bed institution, well equipped and housed in a modern fire-proof structure. The material value aggregates $200,000 and is clear of encumbrance. In preparation for weaning this 25 year old pet, a greater community association was organized in the early autumn of 1918. In scope it is coextensive with the horizon of patronage that had made survival and development of the institution possible.

Iowa has the rural population, the pecuniary wherewithal, the public intelligence, interest and attitude, the essential enabling legislation, the quantity, and I believe quality, of medical practitioners essential to providing and conducting an adequate number of rural health centers.

We must all do good, effective work. We want to get men in these centers who will maintain the issues we are striving for and maintain efficiency and develop into great centers in the vast far reaching fields of primary production, because if we do not get people with brains and character and vision, this country is headed for a fall.

DISCUSSION

Dr. E. E. Munger, Spencer, Iowa: There appears to be common agreement that the hospital is the nucleus around which the solution of the entire health problem must develop. Well persons are more and more becoming interested in how to keep well, but this interest is small compared to the eager desire and earnest hope manifested by sick persons who want to get well.

Rural hospitals are few indeed compared to the rual population, and many of these few have been established by individuals with due regard for the interests of the proprietors and little concern for either the public or the medical profession at large. The rural problem has the advantage of being virgin soil, and if due attention is paid to the foundation, an enduring superstructure should be erected thereon.

In 1910 the state of Iowa enacted a public county hospital law, which made it possible for any county in the state to build a public hospital by taxation or by donation. Since then sixteen states have enacted the same or similar laws. Quite a number of hospitals have been built or are building by virtue of these laws. A larger number of proposals to build hospitals have been defeated, and one fact in connection with success or defeat is worthy of note, namely, practically all of the successful issues were the result of a united effort on the part of the county medical society, whereas nearly all of the defeats followed through a divided or partially lukewarm county medical society, to ill conceived personal interests, to jealousy over the place selected for the location of the hospital, and to ulterior motives of one kind or another.

The United States of America is no larger than the sum total of its units; and the American Medical Association, fashioned after the government, is no larger than the sum total of its component parts which have made it the power for good it has been and is today. With a county public hospital and health system in each state, embracing existing worthy hospitals of all kinds, city, denominational and corporation, and especially those which are an integral part of the great city and medical colleges, all coordinated in the common cause, the solution of the health problem, with uniform state laws regulating the practice of medicine and surgery, with recognition of the interstate relations of intrastate hospitals and health system, all fashioned somewhat after the public school system, with a national public hospital and public health law in harmony with all these, a national department of health becomes a future possibility, the demand therefor having come up from the hearts of the people.

Dr. Guy L. Noyes, Columbia, Mo.: Missouri was encouraged and stimulated by the reports of the successful operation of the county hospitals in Iowa, and four years ago it passed an enabling act which made it possible for every county in Missouri to have a county hospital. Within the act, it is possible for each county to have a special election to vote bonds for the building of a hospital, and the act expressly provides not to exceed one fifth of the general revenue of the county which may thereafter be devoted to the maintenance of such a hospital. Four counties in Missouri have had elections, in three of which the elections carried, and the bonds were voted without opposition. In those counties the county medical society was a unit beyond question behind this movement.

In Missouri we have clearly in mind the project of building a state university, also a county hospital. We hope the legislature will grant us an appropriation that will enable us to establish within the center of these groups of hospitals already in progress one definite mother hospital from which we may be able to work out some of the trying problems of organization, such as those of furnishing nursing service, and investigations in work connected with the matter of evolution of county general hospitals with this mother hospital.

Dr. Augustus Wadsworth, Albany, N. Y.: A bill was introduced into our state legislature last year known as the Sage bill. There was a hearing held, and there was practically no opposition to it except by the medical profession. The bill did not pass because it carried a very large appropriation to put it into effect. This year it was thought wise to divorce the two main functions of the bill, namely, division of the rural districts into health districts, and the health center problem. Therefore, the health center bill this year has been modified. The act is to amend the public health law so as to provide for residents of rural districts, or industrial workers, and for all others who cannot secure such benefits, adequate and scientific medical and surgical treatment, with hospital and dispensary facilities and nursing care; to assist local medical practitioners by providing laboratory and consultation service, and in general to improve the health of the inhabitants of the state by authorizing the county or city to create and maintain one or more health centers to provide state aid, and make an appropriation therefor. This year the appropriation has been reduced to a minimum and may be eliminated in conference when several minor amendments to the bill are made. The bill provides for the erection of hospitals, clinics or outpatient departments, bacteriologic, pathologic, roentgen-ray and chemical laboratories as auxiliary to the state laboratory. It provides for a public health nursing service in cooperation with the state department of education, and so on, in securing medical supervision of the nurses. It provides for periodic examinations, for headquarters for all public health agencies, etc. The local profession has the entire management of the center. The board of managers appoint the medical staff, and the medical staff has entire jurisdiction over the professional work in the hospitals. The bill provides that the hospital shall be open to any reputable physician.

Dr. John A. Ferrell, New York: It is admirable to provide service of this kind so far as practicable, and in the denser populated centers where there is wealth, there will be no difficulty, I think, in establishing such centers; and after providing service for such areas we can learn by experience and by actual test to what extent such hospitals can be provided for the poorer sections that are more sparsely settled. I should like to know to what extent the specifications and general plans for maintenance have been worked out.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: I think in most of the laws that have been passed it is stated that the tax shall not exceed 5 per cent. of the total evaluation of property.

Dr. Guy L. Noyes, Columbia, Mo.: It allows for the use of 5 per cent. of the general revenue of the county for maintenance each year. The original cost is from $75,000 to $175,000 in the counties that have voted, the smallest sum being $75,000.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: Our idea is that the Council on Health and Public Instruction shall prepare a skeleton bill to be introduced into those states that have not already passed such a bill, leaving the details to be filled in by each state.

Dr. E. E. Munger, Spencer, Iowa: Washington County was the first county in the United States, I believe, to establish a public hospital. Fairfield built another county hospital at the same time. I saw Senator Fulton from Jefferson County in Des Moines a few weeks ago, and at the time this county hospital bill was introduced into the legislature he was an ardent supporter of it. The hospital was built the following year. It has been in existence now ten years. Dr. J. Frederick Clark organized the unit with 20 000 people in Jefferson County and got across with it. Senator Fulton said to me that he would sooner see the court house moved out of Jefferson County than to see the county hospital moved out of it. That gives you a fair idea of how useful it is and of how many people are taxed to support the county hospital.

Dr. J. N. McCormack, Louisville, Ky.: In the reorganization work of the American Medical Association with which I was associated for many years, I had the privilege of visiting almost every organized county in the United States. With myself and my associates the central idea that inspired us in this work was that this great national organization was not to be conducted so much for great cities like Chicago, New York and Boston, because they had a profession that was organized, that could take care of itself, but that the work should be so conducted as to reach the outlying population, the less fortunately located of the profession; and after a little while, when the organization was completed, as it was proposed, through this great central body with

its property accumulations, with funds that would be available, it would be able to reach not only every county and every medical man, but also every family in the United States, and by the benefactions of the modern knowledge now in possession of the leading members of our profession, every household in this country.

I believe that the Board of Trustees of the American Medical Association will supply the Council on Health and Public Instruction with the funds to send a man like Dr. Sampson and four or five like him, if you can get them, to do this work. They deserve to be well paid. It will pay 1,000 per cent. on the investment every year. It would be worth all the agencies that can be conducted, except THE JOURNAL and the purely scientific work of the American Medical Association. We have the energy, we have the knowledge, but we need to learn to apply this knowledge and energy in the establishment of similar county hospitals.

DR. S. A. MATTHEWS, Chicago: About six years ago a law was passed in Iowa allowing each county to vote $50,000 to put up a municipal hospital for taking care of the poor very largely, but the poor are scarce out in that country for that purpose. They put up a $50,000 hospital and got another $50,000 from the people and put up a modern building, with a capacity of from forty to fifty beds. The hospital was organized with a lay board. All reputable physicians of the county are allowed to take patients there. The patient gets service first if it can be given. If a patient has money, the physician can collect his own fee. If he has no money, the county board allows the usual fee paid for the treatment of disease, so that the physician does not have to do charity work unless he wishes to. The hospital is under the care of a managing nurse who looks after the welfare of the children of the county. This hospital is now a permanent fixture and a public utility.

The Organization of the Public for Health Work

In the absence of Dr. W. S. Rankin, Raleigh, N. C., who was to have read a paper on this subject, Dr. Vaughan said: The American Medical Association is not taking the interest in public health that it should, and the Council on Health and Public Instruction have so expressed themselves to the Board of Trustees. We have proposed that we frame a model bill to be presented to the different legislatures requesting that public health be taught in all schools in the states. Five states have already passed such a bill. I believe Michigan was the leader in this movement.

In 1895, through the Michigan State Board of Health, the legislature passed a bill, making it obligatory that the methods of communication of the infectious diseases be taught in every public school in the state of Michigan. In 1897 this bill was strengthened. For a number of years it was largely a dead law. It has been becoming more and more effective, and I believe that in Michigan today every boy and girl who has passed through the high school knows something about the avenues through which disease is communicated.

The second thing we are urging is that every teacher that receives a license to teach should have during the course necessary to get that license some instruction in public health. Hundreds and thousands of teachers today who graduate from our normal schools and from our universities in going out to teach do not know anything about the communicable diseases.

We find that the atmosphere of all our medical schools is not suited for the inculcation of facts concerning the prevention of disease. We have tried to induce medical schools to devote more time and more attention to preventive medicine.

The Obligation of Medical Organizations in Public Health Education

DR. FREDERICK C. WARNSHUIS, Grand Rapids, Mich.: What is the rôle our medical organizations must assume in the education of the public in health matters? We must strive for and bring about (*a*) a greater public confidence; (*b*) the establishment of unimpeachable motives and their recognition and acceptance by the public; (*c*) governmental recognition from Washington down to every township; (*d*) a determination of the needs and demands of the public to conserve and enhance the health of the individual; (*e*) the construction of a plan of applicable efficient medical services for all our fellow men in all stations of human activity, and (*f*) a higher type of medical practitioner.

How shall we accomplish these ends? By the taking of definite steps by this Council to enroll the undivided cooperation of all the members of the American Medical Association and its constituent units in support of such a campaign. I believe that such mobilization can be accomplished. Immediate provision must be made to attain this within this year.

While this is being achieved coincidentally there must be witnessed:

1. A revamping of our medical courses and hospital internship requirements, together with a readjustment of state board standards and enforcement of medical practice acts.

2. Legislative activity that will manifest its influence in national and state governing bodies to obstruct conflicting and obstructive legislation that is not consistent with the policies that we seek to establish, while at the same time enlightening our law makers in regard to the principles which we deem paramount in importance for the best interests of the health of this and future generations of our citizens.

3. An educational publicity campaign that will acquaint the public with complete and frank statements as to what is being done for the conservation and enhancement of their physical welfare, and to refute the unwarranted claims of all others who seek to establish their false and unreliable tenets. Such a campaign to be wide in scope and employ advertising space in the form of good will and educational advertisements, public meetings, national, state and local conferences and public discussions with allied organizations, such as the dentists, druggists, United States Public Health Service, Red Cross, and the other already established varied health organizations. The issuance of a paper or magazine, daily or weekly, devoted to the publishing of health news, so-called, and the educating of the public by imparting dependable and accurate information and instruction.

4. Arousing the profession to the need of better and more scientific practice, causing them to live up to the accepted and proved standards of today and thus increase their efficiency and ability to meet the demands of the public by a systematic course of postgraduate work that is immediately available at their very doorsteps: this in the form of regional clinic teams, similar to or modified from the plan now pursued in Michigan by the state medical society.

5. Providing for sections on public health in our national, state and county medical organizations to which representative and local interested lay persons are eligible for membership and whose enrolment should be solicited. The direction in which such sections are to devote their activities is almost self-apparent.

Organization of the Public for Health Work from the Standpoint of the State Health Officer

DR. CORNELIUS A. HARPER, Madison, Wis.: In the final analysis of public health work, the public health problem must be brought close to the public and the people must appreciate that the health problem in the main is their problem.

Taking the medical profession as a part of the laity, we have adopted the plan of three of us going out and talking to medical men in the various county medical societies, of which we have forty-two in Wisconsin. We have talked to the members of eighteen county medical societies, asking their cooperation in outlining a program and what the medical profession can do to help us bring this matter about. If we can get support on the practical and reasonable problems and the encouragement of the medical profession, we can advance much more rapidly than we could without it. In organizing the laity we are using the county public health nurse as an educator in the rural districts. These nurses are organizing the laity by the establishment of what we call in Wisconsin health centers and health stations. Through the activities of these nurses, after an examination of 54,000 children, some-

thing over 30,000 were found to have some defect of one kind or another that needed medical or surgical attention. The school population of the state is being very well taken care of, but the trouble is that children of preschool age are defective in many instances, both physically and mentally, and we are endeavoring to get the people to join in our activities to see that these children will have the care given to them that should be given. The superintendent of public instruction is also encouraging the laity to take up health problems, and the county superintendent of schools and the supervising teachers are working hand in hand with the public health officials and the county nurses in bringing about unity of action on the part of the lay public. These health centers and health stations are the people's, and nurses and medical men are the servants of the people. The public health nurse can get closer to the hearts of the people, if she is built right, than almost any medical man.

The Organization of the Public for Health Work from the Standpoint of the State Public Health Association

Mr. Celestine J. Sullivan, Secretary of the League for the Promotion of Public Health, San Francisco: There is only one public to be organized, and all the organizations represented at this conference and those that are not represented must each and all appeal to the same public and stand or fall on its decision, on its cooperation or opposition.

The organization of the League for the Conservation of Public Health was inspired by leading members of the medical profession of California who recognized that a strong civic responsibility rested on the medical profession to inaugurate a movement for better health; to protect the public from unqualified service and unsound views of quackery; to promote better hospitals and better medicine; to encourage the enactment and enforcement of better health laws to safeguard the public health. Much of the success the league has achieved in defeating destructive measures is due to the fact that we never proceed without finding out the lay of the land by general conferences on all questions in order to get the consensus. We are prepared to act quickly, but we never act hastily. In the campaigns that we have conducted we have had this general attitude of mind: If it is for the public good, we are for it; if it is against the public good, we are against it.

How to organize the public, how to formulate a plan, how to formulate a timely message and get it before thousands of different persons and make them see it, demands special knowledge of the basic laws of how people in large groups think and decide. When the League for the Conservation of Public Health has undertaken a campaign and wishes to achieve the result it wants, it has been due not to guesswork or haphazard methods but to the fact that we have canvassed public opinion; we have recognized spoken facts and controlling conditions, and then formulated our campaign to meet the situation.

We recognize in the hospital the greatest health center of every community. These hospitals should be made the pivotal points of medical practice and of public health work.

Organization of the Public for Health Work from the Standpoint of the Voluntary Public Health Organization

Dr. Charles J. Hatfield, Secretary, National Tuberculosis Association, New York: When we start an organization for the promotion of public health or for health, from the standpoint of a voluntary agency, we must immediately consider the basis on which the whole structure is built, is limited or conditioned. The voluntary health agency may be an educational factor. The general education of the public on public health measures is a function that the voluntary agency may insist upon. The constitution of such a voluntary agency gives it certain advantages over an official body in the matter of popular education. The ideal of every one of us in public health education is that the last individual in the community shall be reached and induced to become interested in public health. Voluntary health organizations are necessary, history shows that they have grown from necessity, and I believe their development indicates their real worth. The public health official is the apex of the wedge, in football terms, and behind him should be massed the whole nation as a voluntary health agency.

Organization of the Public for Health Work from the Standpoint of the Business Man

Mr. Lee K. Frankel, Third Vice-President, Metropolitan Life Insurance Company, New York: There are two classes of people today that cannot obtain services along the best diagnostic lines. The very poor are getting it in connection with hospitals and dispensaries by the finest type of most eminent men, and the very rich who can pay for it. But the great mass of the public is still unable to obtain that type of service at a cost which is within reason, and the result of it is that anywhere from 25 to 40 per cent. of the public, depending on the communities in which they live, because of the cost of medical service are unable unable to obtain it, and are not obtaining it in cases of disabling illness. That is a condition we must remedy.

If we must educate the great public, we must use the same methods the business man does in his work. We shall have to realize the need of spending money, of visualizing things that our public health authorities are trying to do, of bringing these things home to the people by making them realize that they want health more than they want sickness. Modern business today cannot be run without a periodic inventory, and with periodic and constant individual inspection. It will be necessary to take a periodic inventory of our human machinery, the great public. If we work along the best preventive lines, we are going to find diseases in their incipience and take them at a time when they are curative. We are going to cut down the mortality rate by so doing to a greater extent than that indicated in the figures given by Dr. Vaughan in his address.

The Organization of the Public for Health Work from the Standpoint of Women's Organizations

Dr. Lena L. Means, New York: The Women's Foundation for Health is a cooperative body composed of fourteen national women's organizations. It means a grouping of all the national organizations of women, and the main idea is to create public opinion for positive health. We want to create public opinion for building up health. These organizations represent ten million women, through whom we wish and hope and expect to get these positive health ideas over to all women and girls. We are stressing the individual responsibility for health.

The pronouncement of the Women's Foundation for Health is that the fundamental belief is that health is normal and realizable. It defines health as the condition of being which allows an individual the full development and mastery of herself—the powers of her physical body, her mental processes, her emotional force, her spiritual expression. Fully recognizing the importance of proper treatment of disease when it occurs, and of prevention, the foundation proposes education in the building of health. While recognizing the collective responsibility for securing sanitary, hygienic, economic and recreational conditions favorable to well-being, it regards the attainment of health as a matter of individual and personal responsibility.

Social Hygiene Legislation.—The years 1918 and 1919 were banner years for venereal disease legislation. Venereal diseases had been made reportable either by statute or regulation of state boards of health in only thirteen states, prior to Jan. 1, 1917, while even fewer had provisions for examination of suspected persons, and for quarantine or compulsory treatment of those in an infectious stage. No venereal diseases are reportable in at least forty-three states, while the remainder probably have legislative authority for their state boards of health to make them reportable by regulation. Compulsory examination of suspected persons and quarantine of those who are deemed to be a menace to public health, are now provided for by forty-four states, either by statute or regulations of the board of health.—G. E. Worthington, *Social Hygiene* 6:565 (Oct.) 1920.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Personal.—Dr. William V. Nichols, Oceanside, recently sustained a severe scalp wound when he was knocked down by an automobile.

Bill for Eight-Hour Day in Hospitals.—Bills introduced in the state legislature provide for an eight hour day for all employees of institutions and for the pensioning of such employees when they become disabled in the line of duty or after twenty-five years of service.

CONNECTICUT

Physician's Office Bombed.—An explosion recently badly damaged the office and home of Dr. Jonathan D. S. Smith, Bridgeport.

DISTRICT OF COLUMBIA

George Washington University Establishes Military Course.—The Medical School of the George Washington University, Washington, D. C., has filed an application with the Medical Department of the Army for the establishment of a Reserve Officers Training Corps course. Major Eugene G. Worthington, retired medical officer, has been assigned by the Surgeon-General as professor of military science and tactics. The course will be inaugurated with the 1921-1922 term.

Bureau of Mental Hygiene.—Just as the present health department cares for their physical well-being, a bureau of mental hygiene to look after the mental health of the citizens of Washington is being advocated by social workers, alienists and physicians interested in mental problems. Dr. William A. White, superintendent of St. Elizabeth's, the government hospital for the insane, and Dr. Robert Yerkes, author of mental intelligence tests in the army, are said to favor the establishment of the bureau.

GEORGIA

Health Nurses for County Schools.—Dr. Robert W. Todd, county health commissioner, has inaugurated the plan of placing a junior health nurse in every school in Cobb County.

Personal.—Dr. Eugene O. Chimene, who recently was health commissioner of Floyd County, has been elected to a similar position in Greenville County, S. C. Dr. Buena Vista Elmore will succeed him in Floyd County.—Dr. Harry W. Shaw, Augusta, was recently appointed to the board of directors of the medical school of the University of Georgia.

Registrars of Vital Statistics Organize.—Eight of the Southeastern states were represented by their directors of bureaus of vital statistics at a conference held, March 18-19, at Atlanta. A permanent organization of state, city and local registrars of vital statistics was effected. The following officers were elected: Dr. William A. Davis, Atlanta, chairman; Dr. J. George Dempsey, New Orleans, vice chairman, and Mr. Stewart G. Thompson, Florida, secretary-treasurer.

INDIANA

State Hospital Association.—An effort is being made to organize an Indiana state hospital association at a meeting to be held at Hotel Fowler, LaFayette, April 27-28, 1921.

IOWA

Sanitation Laws Will Be Enforced.—The construction of new sewers in Sioux City having brought hundreds of dwellings under the state housing law, which requires every house within 150 feet of a sewer to have sanitary connections with both city water and sewer systems, notices have been mailed to all property owners that the rules will be strictly enforced.

KANSAS

Hospital News.—St. Elizabeth's Hospital, Hutchinson, has recently been completed at a cost of $125,000.

MAINE

Hospital News.—The Queen's Hospital, Portland, has purchased a large residence building near the hospital, which will be remodeled and used as a maternity department.

MARYLAND

Personal.—Dr. Walter F. Somers has been appointed temporary surgeon of the fire board of Baltimore city, for a period not exceeding sixty days, to fill the vacancy caused by the illness of Dr. Elijah J. Russell.——Dr. John M. T. Finney has left for a trip through the West, to fulfil clinic and lecture engagements at Western institutions. He will then make a tour of California.

Lectures on the Herter Foundation.—Trustees of the Johns Hopkins University announce that the twelfth course of lectures on this foundation will be given in the medical amphitheater, Johns Hopkins Hospital, April 12-14, by Frederick Gowland Hopkins, M.D., M.A., D.Sc., F.R.S, professor of biochemistry and director of the biochemistry laboratory, Cambridge University, England.

Meetings.—The annual meeting of the Maryland Tuberculosis Association was held, March 28, at Baltimore. The principal address was made by Dr. Charles L. Minor of Asheville, N. C., who spoke on "Compensations of Tuberculosis."——The regular meeting of the Johns Hopkins Hospital Medical Societies was held, April 4, in the medical amphitheater. Dr. Alan Woods spoke on "Immune Reactions Following Injury to the Uveal Tract" and Dr. Guy L. Hunner discussed "The Influence of Ureteral Stricture on Other Lesions of the Urinary Tract," illustrated by lantern slides.

Sites for Municipal Hospital Recommended.—The hospital commission, appointed some months ago by the mayor to recommend a location for a municipal hospital for contagious diseases for Baltimore city, recently presented its recommendations for this hospital. The first choice is a site at Arlington, Baltimore, a tract of 35 acres. The second choice is on the Western Maryland Railroad and south of the above site, containing 37 acres. The selections were made with the understanding that several streets be opened to provide means of reaching the hospital.

Outbreak of Smallpox.—Following a recent tour of the St. Mary's Industrial School band through western Maryland, in the interest of the campaign for a new building, three cases of smallpox developed among the members of the band and the disease has spread to three other boys at the school. The institution has, therefore, been put under strict quarantine and the 600 boys vaccinated. The Baltimore City Health Department attributes the outbreak to the trip, as there has been considerable smallpox in the western part of the state. The cases are all very mild in character but the quarantine will not be lifted for two weeks.

MASSACHUSETTS

New Head for Hospital.—Dr. William A. Bryan, department of mental diseases, Danvers State Hospital, has been appointed superintendent of the Worcester State Hospital, to succeed Dr. Ernest V. Schriber, deceased.

Accidents to Physicians.—Dr. Leonard Landry, Boston, was injured recently when the sedan he was driving collided with an automobile truck.——Dr. Cesidio A. Guarini, East Boston, was injured recently when his automobile was damaged by a Union freight locomotive.

Personal.—Dr. Dorvil M. Wilcox, former president of the Berkshire County Medical Society and member of the school committee of Lee since 1872, was recently presented with a mahogany chair by his fellow towns people at a reception given in celebration of his eightieth birthday.

Physician to Serve as Probation Officer.—Because of the necessity for an early and correct diagnosis of the mental condition of offenders brought into court, Judge Almy recently appointed Dr. Frederick Benjamin M. Cady, Cambridge, as assistant probation officer of the third eastern Middlesex district court at Cambridge. With the exception of the municipal court at Boston, this is said to be the only court that has a physician regularly attached to its staff.

Appointments at Harvard Announced.—The following appointments, to be effective for the remainder of the college year at the Harvard Medical School, are announced: Dr. Philip Drinker, Princeton, 1912, and Dr. Douglas A. Thom, Vermont, 1912, become instructors of applied physiology and psychiatry, respectively. Dr. Paul W. Emerson, 1907, Dr.

David M. Hassmann and Dr. Sehichi Uymatsu are appointed assistants, the first two in pediatrics, and Dr. Uymatsu in neuropathology. Dr. Uymatsu is a graduate of the Imperial University of Tokio. Dr. Frederick L. Wells, Columbia, 1903, is given an appointment as instructor in experimental psychopathology, while Dr. Lloyd J. Thompson, Missouri, 1917, and Dr. Caesar Uribe become assistants, their subjects being psychiatry and comparative pathology. Dr. Thomas K. Richards, 1915, is named Austin teaching fellow in surgery.

MICHIGAN

Health Show at St. Joseph.—Dr. Harry E. Mock, Chicago, spoke on "Industrial Hygiene" at the recent health show in St. Joseph. A permanent infant welfare clinic, toward the equipment of which the Berrien County Milk Producers' Association contributed $50, was inaugurated during the health show.

MINNESOTA

Personal.—Dr. John E. Soper, Minneapolis, who served with distinction during the World War, has been appointed inspector general of hospitals for disabled ex-service men for the district, including Minnesota, North and South Dakota, Montana and Iowa.

MISSISSIPPI

Court Passes on Health Regulation.—A physician, convicted in the lower court of violating the regulation of the state board of health requiring a report on the first of each month of all cases of notifiable communicable diseases treated during the previous month, appealed to the supreme court, contending that the regulation was unreasonable. The court decided that the regulation was not unreasonable, but discharged the appellant because of insufficiency of the evidence.

MISSOURI

State Director of Physical Education.—The Tatum bill, providing for the appointment of a state director of physical education to supervise physical education, health habits, school sanitation, and playground activities in the schools, has been passed by the house. County and city school boards employing more than thirty teachers are empowered to employ supervisors of physical education. Teachers are required to obtain a certificate from a physician showing they are in good health and free from contagious diseases. Physical education is made compulsory in institutions for training teachers.

Child Hygiene in Missouri.—Carlisle P. Knight, United States Public Health Service, has just completed a year's survey of child hygiene in conjunction with the state board of health of Missouri and other private associations. The report just issued shows that a house to house canvas was made in many cities to determine the percentage of birth registration, the sanitary condition of the home, the amount of milk used, the relative income and the relation between prenatal influence and infant mortality. The parents were greatly interested in the work and better health supervision of young children and correction of much improper eating and sleeping habits resulted. In some communities school hygiene was begun by weighing and measuring the children. The discovery of many children underweight occurred with subsequent physical examinations that revealed physical defects that were unknown to the parents. Rural school surveys showed that though the country child had the advantage of fresh air and outdoor life he usually sleeps with closed windows and subsists especially in fall and winter on pork, hot biscuits, gravy, and sorghum. In the summer he has home-grown vegetables. Adenoids and decayed teeth pass unnoticed and are neglected because of lack of facilities. The opening of numerous clinics was effected in which examinations were made for teeth, eye and orthopedic defects.

MONTANA

Personal.—Dr. John M. Scanland, superintendent of the state hospital for the insane, Warm Springs, was operated on recently for appendicitis.

NEW JERSEY

Venereal Disease Conference.—A conference on the diagnosis and treatment of syphilis and gonorrhea will be held at the City Dispensary, Newark, May 11-12, under the auspices of the state and city venereal disease bureaus. Drs. Howard Fox and Mihron B. Parounagian, New York, will discuss syphilis, and Drs. Edward L. Keyes, Jr., and Colin L. Begg, New York, will discuss gonorrhea.

NEW YORK

Health Council Changes Opposed.—A measure pending in the state legislature proposing a reorganization of the public health council was opposed by the Rochester Tuberculosis Organization at a meeting held March 21. The annual meeting of the association will be held April 30; Dr. Charles J. Hatfield, manager of the National Tuberculosis Association, will be the speaker.

Brooklyn Physician Contests State Ruling.—Dr. Frank B. Jennings has applied to Supreme Court Justice Van Siclen for an injunction restraining State Commissioner of Narcotic Drug Control Walter R. Herrick from enforcing a regulation promulgated last December requiring physicians to issue prescriptions for cocain, morphin and other habit-forming drugs only on triplicate blanks issued by the commissioner's office. Dr. Jennings contended that the regulation constituted a violation of his rights and those of other physicians. Justice Van Siclen has reserved decision.

Protest Against Reduction of Medical Service.—Contemplated economies in state institutions for the insane, which would reduce the number of physicians and employees in these institutions, have brought widespread and vigorous protests to Governor Miller from medical and charitable circles. Reductions are provided for in a bill now pending in Albany and have been recommended by the legislative committee charged with its preparation. The state charities aid association is among the organizations that have protested against this legislation as destructive of effective work in the state institutions.

New York City

Personal.—Dr. Nishan H. Bayenderian sustained, it is feared, a fracture of the skull when he was struck on the head with a hammer by a patient whom he had been treating for a nervous disorder.

Hospital Starts Drive.—Beth David Hospital began a drive to raise $250,000, on April 1, with which to complete and maintain the eight story extension which is now in the process of construction and which will enlarge the hospital to four times its present capacity.

New York Electrotherapeutic Society Organized.—At a meeting held, March 9, the New York Electrotherapeutic Society was organized, and the following officers elected: Dr. Victor C. Pedersen, president; Drs. Harold D. Corbusier and Isaac Seth Hirsch, vice presidents; Dr. Herman C. Frauenthal, treasurer; Dr. Richard Kavacs, secretary.

New Medical Society Incorporated.—The incorporation of the Italian Medical Society of Brooklyn has been approved by Court Justice Benedict. The purposes of the new society are to erect an Italian hospital in Brooklyn, and to encourage friendly relations between American and Italian physicians. Dr. Gaetana De Zoanna has been elected president.

Antivaccinationist Twice Convicted.—Hugh McCullum More of Port Richmond, S. I., was convicted for the second time on the charge of failing to send his daughter to school because of his opposition to vaccination. He was given the choice of a fine of $25 or spending five days in jail, and allowed until April 4 to make the decision. In the meantime the antivaccinationists have taken up the fight in More's behalf.

Government Opens War on Port Rats.—Surgeon-General Hugh H. Cumming has sent a commission, headed by Dr. Joseph H. White, to New York and Boston to study quarantine conditions and to make recommendations to the Public Health Service. One of the important features of the work will be a survey of methods of "rat proofing." Other members of the commission are Dr. Allan J. McLaughlin, Dr. Mervin W. Glover and Assistant Sanitary Engineer E. C. Sullivan.

Study of Brooklyn Health Center Work.—At the request of Dr. Thomas J. Riley, secretary of the Brooklyn Bureau of Charities, a careful study was recently made of the Brooklyn Health Center work by a committee consisting of Drs. Donald B. Armstrong, Michael M. Davis, Jr., and Haven Emerson. The committee in commending the work recommends the formation of a representative citizens' committee for each center to foster neighborhood interest and encourage periodic medical examinations. The investigation found that many cases of tuberculosis previously unknown have been found by the health center.

NORTH CAROLINA

Craven County to Have Health Officer.—Beginning April 1, Craven County will have a full-time health officer.

Medical Society Reorganized.—At a meeting held in Kinston, March 14, the Lenoir County Medical Society was reorganized with Dr. Zebulon V. Mosely, Kinston, as president, Dr. Mathew L. Carr, La Grange, vice president, and Dr. Charles P. Mangum, Kinston, secretary-treasurer.

Milk Producers Approve New Act.—Recent legislation relating to milk was read and the provisions of the act explained to seventy-five milk producers from all parts of Bupcombe and neighboring counties gathered at Asheville. Convinced that the act places local producers on a just footing while giving the consumers protection superior to that of other sections of the country, the milk producers gave a vote of thanks to the author of the bill.

District Medical Society Organized.—The medical societies of Martin, Pitt and Beaufort counties met at Washington, March 23, in response to the invitation of the Beaufort County Medical Society, and organized a Tri-County Medical Society. The following officers were elected: Dr. H. W. Carter, Beaufort County, president; Dr. W. H. Harrell, Martin County, and Dr. K. P. Pace, Pitt County, vice presidents; Dr. W. E. Warren, Martin County, secretary-treasurer. The society will hold three meetings a year, one at each of the three county seats; the next to be held at Williamston.

OKLAHOMA

Public Health Conference.—An afternoon devoted to a business men's health session was a new feature in the third annual conference of the state department of health in cooperation with the Oklahoma Tuberculosis Association. Addresses on the relation of health to industry and the interest for the business man in the general health campaign were delivered, and the united support of commercial organizations in state public health movements was assured. Resolutions were passed asking that the name Oklahoma Tuberculosis Association be changed to Oklahoma Public Health Association. Other resolutions called for increased appropriations for the state health department and the creation of a bureau of public health nursing in the department.

OREGON

State-Wide Survey of Mental Defectives.—The University of Oregon in collaboration with Dr. Chester L. Carlisle, Eugene, of the U. S. Public Health Service, recently completed a state survey of mental defectives, which shows that more than 75,000 men, women and children out of a population of 783,000 are dependent, delinquent or feebleminded, unable either to work or to fight, and are a constant drain on the finances, health and morality of the state. Very few of these mental defectives are being cared for in institutions. It was also found that 500 out of a total of 32,500 children of school age were more or less mentally deficient. Since the figures disclosed by this survey are lower than the average shown by the draft examination, the U. S. Public Health Officers believe that the percentage is no higher than would be shown by similar surveys in other states. The Public Health Service in its conclusions emphasizes the importance of the problem presented by mental defectiveness in its relation to juvenile delinquency, to the control of venereal disease, and to the economic and industrial condition of these unfortunate individuals. The survey was authorized by the state legislature.

PENNSYLVANIA

State Health Appointments.—Dr. Edward Martin, state health commissioner, Harrisburg, has announced these health appointments: Dr. Anna M. Scrade, chief of the child health station, Erie; Dr. Charles E. Nicholson, chief of the tuberculosis clinic, Pottstown; Dr. Sarah Wycoff, assistant in child health work, Wilkes-Barre; Dr. Joseph J. Kocyan, chief of maternity service, Wilkes-Barre; Dr. J. Erwin Zerbe, physician in charge of tuberculosis clinic, Franklin; Dr. William Tell Phillipy, chief of tuberculosis clinic, Carlisle; Drs. Harry C. Fulton, DuBois, and Willis M. Baker, Warren, chiefs of genito-urinary clinics at those places. Mr. W. A. Lambing has been appointed full time health officer for Armstrong County.

Philadelphia

Personal.—The Medical Club of Philadelphia will hold a reception, April 15, in honor of George E. Vincent, LL.D., president of the Rockefeller Foundation.

Phipps Institute to Open New Clinic.—The Henry Phipps Institute has announced that a diagnostic clinic for the examination of employees in industrial plants will soon be opened one day each week.

Mary Scott Newbold Lectures.—The fifth of these lectures will be delivered, April 20, by Prof. William Romaine Newbold on "The Voynich Roger Bacon Manuscript" with lantern demonstration, at the College of Physicians.

College of Physicians.—At a meeting held, April 6, Dr. Francis R. Packard read a memoir of the late Dr. George S. Gerhard, and F. G. Hopkins, M.B., professor of biochemistry, Cambridge University, England (by invitation), read a paper entitled "Some Oxidative Mechanisms in Living Tissues."

RHODE ISLAND

Medical Society Criticises Compensation Act.—Section 5 of a bill before the judiciary committee of the senate providing for changes in some of the provisions of the workmen's compensation act was unanimously opposed by the Rhode Island Medical Society at a meeting recently held under the presidency of Dr. Jesse E. Mowry. It was charged that nurses are being employed by industrial plants for the performance of physicians' duties in violation of the law, and that employees are afraid to report unlawful conditions to the state board of health. The main objection to the bill was the extension of time of treatment to eight weeks while limiting total charges to $200, which was felt to be unfair to physicians in consideration of equipment, hospital expenses and other items.

SOUTH CAROLINA

Fifth District Medical Society Reorganized.—At a meeting in Rock Hill, March 15, the Fifth District Medical Society, which because of the absence of many members during the war had practically suspended activities, effected a reorganization and planned to meet twice a year for scientific discussion. The following officers were elected: president, Dr. William R. Wallace, Chester; vice presidents, Drs. George W. Poovey, Lancaster, William M. Love, Chester; secretary-treasurer, Dr. George A. Hennies, Chester. The president and secretary of the state association, Dr. Washington P. Timmerman, Batesburg, and Dr. Edgar A. Hines, Seneca, were present.

State Conferences.—Four important medical meetings are scheduled at Columbia this month. The state medical association will hold its seventy-third annual meeting, April 19-20. The principal address will be made by Dr. George Walker, Johns Hopkins Medical School, Baltimore, who served on General Pershing's staff during the war, with the rank of colonel, and was in charge of venereal control for the entire A. E. F. His subject will be "The Abolition of Venereal Diseases." The second day of the session will be devoted to a joint meeting with the state hospital association, the state public health association, and the state nurses' association. The nurses' association will be in session here three days, April 18-20.

TENNESSEE

State Association Meeting.—The annual meeting of the Tennessee State Medical Association will be held, April 12, at Nashville.

Legislative News.—A bill having for its purpose the amendment of Section 2772 of the state code has been introduced in the state legislature. This amendment would limit the time of entering malpractice suits to one instead of six years immediately following the date of attendance upon the person who may bring such suit.

TEXAS

Physician Convicted.—It is reported that Dr. Gabriel T. Spearman, Houston, was convicted of violation of the federal narcotic laws.

VIRGINIA

Hygiene Course for Teachers.—The state board of health in collaboration with the department of education has established a correspondence course, consisting of twelve lessons in physical inspection of schoolchildren, control of communicable diseases, personal hygiene, and first aid to the injured.

WASHINGTON

School Clinic.—An amended bill, prepared by a conference of school and health authorities and presented to the legislature, authorizes school directors of first class districts to have supervision of health and physical condition of children and to maintain dental and medical clinics. No child shall be treated or vaccinated without consent of the parents, and

only those children whose parents are unable to pay shall be given free treatment.

WEST VIRGINIA

Miners to Have New Hospital.—As soon as contracts are awarded, a hospital for miners, to cost approximately $500,000, will be built at Charleston. The project will be financed by about 20,000 union miners who have voted a monthly assessment of $1 each until the building is paid for and a smaller monthly assessment for maintenance after the hospital is opened.

WISCONSIN

Supreme Court Affirms City Council Decision.—In a recent decision the state supreme court upheld an ordinance passed by the city council of Milwaukee requiring that all milk sold in that city, except certified or tested milk, should be pasteurized.

Legislative News.—The legislature has advanced to engrossment, by a vote of 69 to 33, a bill to repeal the compulsory clause of the present law and make vaccination optional. The bill is opposed by the medical fraternity and the state board of health.

CANADA

Personal.—Dr. John Noble, Toronto, on his retirement from the chairmanship of the board of education of that city, was the recipient of a handsome cabinet of silverware. Dr. Noble was a public and high school trustee for eighteen years.

Public Health Notes.—The Superior Board of Health of the Province of Quebec has announced that the smallpox quarantine which has been in force against the Ottawa and Hull districts was raised on the first of April.——A plan has been presented to the Canadian House of Commons, which legislation will probably affect the welfare of the Canadian Expeditionary Forces in Canada. It is along the lines of the Garden Colony in England and is to care for the tuberculous soldier. A farm on the mountain near Hamilton is already available; and should the plan materialize and prove as effectual as the Garden Colony in England, many soldiers may be restored to health. Out of 100 men sent to the English institution—every one a serious case—only one death has so far been recorded. There are forty-five cases now at the Mountain Sanatorium at Hamilton, Ont.

GENERAL

Catholic Hospital Association Convention.—The 1921 convention of the Catholic Hospital Association the United States and Canada will be held, June 21 to 24, at St. Paul.

Personal.—Dr. Edward W. Scripture, formerly of Yale University and Columbia University Medical School, has been appointed to the faculty of the University of Hamburg for the summer semester.

Commission for Relief in Belgium Educational Foundation.—Ten Belgian students out of a total of twenty-four exchange students of the foundation are studying medicine in Johns Hopkins, California, Harvard, Columbia, University of Pennsylvania, Cornell, Yale and Stanford. They are specializing in stomatology, neurology, bacteriology, ophthalmology and surgery. The C. R. B. Educational Foundation and the parallel organization in Belgium, the Fondation Universitaire provide for the exchange of forty-eight graduate students yearly between America and Belgium, twenty-four from each country.

Southern Public Health Laboratory Association.—For the purpose of securing uniformity of methods and procedure among the public health laboratories of the Southern states, there was organized at Atlanta, March 16, the Southern Health Laboratory Association, which is the first of its kind in the United States. Directors and subdirectors of both municipal and state laboratories will be eligible to membership. Representatives of health departments in seven southern states were present and the following officers were elected: president, Dr. Clarence A. Shore, Raleigh, N. C., and secretary, Mr. T. F. Sellers, Atlanta.

LATIN AMERICA

New Hospital for Bahia.—There has begun the construction of a new hospital connected with the medical school of Bahia. This hospital will be used to give clinical instruction to students.

Radium Ward in a Mexican Hospital.—In the General Hospital of Mexico a new ward has been lately opened for radium treatment. It is provided with 20,000 pesos worth of this metal.

Prize to Dr. Menotti Sainati.—The S. Paulo Sociedade de Medicina e Cirurgia has conferred the "Dr. Sergio Meira prize," a diploma and gold medal, on Dr. Menotti Sainati for his study of Mikulicz's disease.

Plans for a Medical Congress.—Plans are being made to hold a Central American medical congress at San José, Costa Rica, in connection with the celebration of the centenary of independence in 1922. Dr. J. Pastor López is at the head of the organizing committee.

Donation from Kraus of Buenos Aires.—The *Medizinische Klinik* relates that Dr. Rudolph Kraus, chief of the Instituto Bacteriológico of the Public Health Service of Argentina, has presented 77,000 crowns to the Vienna Medical Society for the widows' and orphans' fund.

Milk Laboratory in Uruguay.—The Uruguayan government has created at Montevideo a milk laboratory which will analyze milk sold to the public, substitutes for mother's milk, products obtained by the use of lactobacillus and milk of wet nurses. The laboratory will also establish milk standards.

New Sanitary Code in Salvador.—The president of el Salvador has issued a decree embodying the rules and regulations for the government of the new bureau of public health. The bureau will be in charge of all public health matters. Its officers are the director general and several chiefs of sections.

Election of Officers.—The Sociedade de Medicina e Cirurgia of S. Paulo, Brazil, elected March 7, its officers for the coming year: Dr. Enjolras Vampré, president; Dr. A. Lindemberg, vice president; Drs. J. Pereira Gomes and M. Ottoni de Rezende, secretaries; Dr. A. Corrêa Dias, treasurer. The publication of the *Bulletin* is in the hands of Drs. Soares Hungria, Flaminio Favero and Lemos Monteiro.

Tribute to the Retiring Director of S. Paulo Medical School.—Dr. Ovidio Pires de Campos on his retirement was presented by the officers of the school with a gold plate, set with brilliants, on which was engraved a tribute to his work during his directorship. Dr. E. Xavier, professor of medical physics and chemistry, has been appointed to succeed him. Dr. J. Alves de Lima is the new vice director of the school.

Bequest to the Instituto Oswaldo Cruz.—Our Brazilian exchanges state that the will of Mr. Harold C. Lloyd, a British subject residing in S. Paulo, bequeathes all his property in S. Paulo to the Instituto Oswaldo Cruz, of which Prof. Carlos Chagas is director, at Manguinhos, near Rio de Janeiro. The bequest is to be applied exclusively to promote research on prevention and treatment of infectious diseases.

The Argentina National Medical Congress.—The *Semana Médica* relates that hydatidosis is the single theme appointed for discussion at this congress to convene at Buenos Aires in October, 1922. The subject has been subdivided into the biology: the echinococcus and the hydatid cyst; the pathology: general, medical and surgical, and the bibliography: national, American and universal. Address of the secretary is Santa Fé, 1171, Buenos Aires.

Belgians to Study Tropical Medicine in Brazil.—Dr. C. Chagas, director of the Instituto Oswaldo Cruz near Rio, recently received a letter from the University of Brussels asking permission to send two Belgian physicians to Brazil for a six months' course of study in prevention and treatment of tropical diseases, funds having been already appropriated for the purpose. The visiting physicians are not expecting to do original research work, but merely to study the methods in vogue in Brazil.

Financial Aid for Vienna Physicians.—The *Brazil Medico* announces that the committee appointed by the Academia Nacional de Medicina at Rio last year to receive subscriptions for the relief of members of the profession in Vienna, has recently forwarded to the Brazilian chargé d'affaires at Vienna, Dr. A. Murtinho, the sum of 228,226 crowns, the amount of the subscription up to February. The committee comprises Drs. J. de Mendonça, Abreu Fialho, A. Moses, C. Chagas and Aloysio de Castro.

First Paraguayan Medical Congress.—The first national medical congress ever held in Paraguay took place in March. The subjects discussed were hookworm disease, malaria, tuberculosis, alcoholism, and other diseases. The membership of the organizing committee was as follows: president, Dr. L. E. Migone; secretary, Dr. Manuel Ubieta; and members, Drs. Carlos Silva and P. L. Barbosa.——Drs. J. F. Recalde and

F. Abente Haedo were the Paraguayan delegates to the Sixth International Sanitary Conference at Montevideo.

Discussion of Reciprocity.—The *Folha Medica* of Rio de Janeiro reproduces some letters that have passed between the authorities of Brazil and Venezuela in regard to the proposed acceptance of reciprocity credentials in medicine. One of them urges regulations which will prevent abuses such as have occurred, it states, with the Mackenzie College at S. Paulo. This institution, it states, confers on its graduates the degree of agriculture and engineering, the degree proceeding from North America and thus not amenable to the laws of Brazil although the graduates have never been outside of Brazil, the consular authorities passing the degrees without question as conforming to the regulations in regard to degrees conferred in foreign countries for the completed course of study. The letter urges the nationalization of education under all of its aspects, allowing no loopholes for such an institution as this to function in the country outside the jurisdiction of the laws.

FOREIGN

Patti's Home Becomes Tuberculosis Sanatorium.—The Welsh National Memorial Association has acquired Craig-Y-Nos Castle, for many years the home of Madame Patti, to be used as a tuberculosis sanatorium.

Spanish Journals Discontinue.—*Therapia* of Barcelona and *Revista Española de Electrologia y Radiologia Médicas* of Madrid have both failed to appear recently, due, the editors state, to the present critical situation faced by medical journals everywhere.

Berlin Professor Made Honorary Member of a British Society.—The election of Dr. Ivan Bloch, Berlin, to honorary membership in the British Society for the Study of Sex Psychology, marks the first return to scientific relations between England and Germany.

Scarcity of Alcohol in Hospitals in Germany.—The organized physicians of the public hospitals have petitioned the government to ensure them a supply of alcohol for disinfecting the hands and for giving superheated air baths. The lack of alcohol has been a serious handicap for many of the sick.

Prize for Article on Tuberculosis.—All medical practitioners may compete for the prize offered by the *Indian Medical Record* for the best article on "Tuberculosis, Its Etiology, Prophylaxis and Treatment," more especially from the point of view of tropical medicine. Manuscripts should be sent to A. C. Bisharad, editor, *Indian Medical Record*, Calcutta.

Books for Europe.—A group of nine professors and librarians at Copenhagen have issued an appeal to the physicians of Denmark to donate medical textbooks and dictionaries for the use of physicians and students in Belgium, Germany and Austria who are suffering for the lack of scientific works. English, French and German books are solicited. The address to which the articles are to be sent is Kollegahjaelpens Depot, Slagtehallerne, Halmtorvet, Copenhagen, Denmark.

Social Health Insurance in America.—The German weeklies are interested in the agitation in this country against introduction of compulsory insurance against sickness, the *Medizinische Klinik*, for example, quoting at length from THE JOURNAL and commenting on the possibilities of group medicine, etc. It concludes with the remark "It seems very doubtful, however, whether these plans and arrangements will suffice to permanently prevent the introduction of compulsory social insurance into the country."

Hindu Women Petition Against Prostitution.—In support of a bill to deal with prostitution, which has been prepared for submission to the Imperial Legislature of India by Dr. Tej Baha dur Sapru, Allahabad, a petition signed by more than 7,000 women of the country has been addressed to H. E. the Viceroy of India. Because of their inability to write, thousands of women are barred from signing the petition. Appeals printed in English and in three of the Indian vernaculars are being widely circulated in Calcutta, Bombay and other cities.

French Physician to Visit London.—To promote the medical entente existing between France and England, Dr. Monod, an official representative of the Faculty of Medicine of Paris was recently sent to London. The visit had four distinct purposes: To offer the fellowship of medicine representation in the Faculty of Medicine, Paris; to insure proper exchanges of literature and of reviews by competent critics; to endeavor to arrange exchanges of professors between the two countries; and to lay the foundation of a strong Anglo-French medical association.

Medical Scholarships for Serbian Girls.—As a fitting memorial to the work of medical women in Serbia and as a means of fostering the friendliness between Serbians and Britons produced by relations during the war, there was recently held in England, by invitation of the Lady Swaythling, a drawing room meeting in aid of a plan to endow one or more scholarships for Serbian girls in connection with the London School of Medicine for Women and the Royal Free Hospital. The successful candidates will be required, when qualified, to return to practice in their own country.

A Medical Ambassador.—The recent death of Jules Harmand recalls his remarkably varied career. He began his professional life as a surgeon in the French navy, and took part in the conquest of French Indo-China, after which he explored the country and compiled records on the geography, pathology, ethnography, entomology, etc. He was appointed governor-general of Tongking, then consul-general to Siam, then to Calcutta, and then minister to Chile, and, in 1894, minister of France in Japan, and ambassador. Since his retirement he had devoted himself to entomology and to his important work "Domination et Colonisation." His remarkable collection of insects includes a number of new species.

Prizes Offered by the Madrid Academy of Medicine.—For the best work on the histogenesis of the nervous system and for the best work on cell metabolism, the academy offers a prize of 750 pesetas and gold medal. Competing articles must be in Spanish and typewritten, with motto, and name in sealed envelop, and be received by the Secretaria de la Real Academia Nacional de Medicina before July 1, 1922. The prizes will be awarded at the inaugural meeting of the year 1923. The Rubio prize will be conferred for the best work published by a Spanish physician during 1919 and 1920. Other prizes are offered for a study of the medical geography of part of the province of Madrid, and for the best work presented by physicians connected with the Asistencia Pública.

International Congress of Medicine and Pharmacy as Applicable to the Army and Navy.—As previously announced, the medical corps of the Belgian army has organized an international medicopharmacologic congress for the discussion of certain medical and pharmacologic questions as viewed from the military standpoint. The main topics on the order of the day are: General organization of army medical corps and their relations with the Red Cross; clinical and therapeutic studies on the war gases used during the recent war by the central empires, the sequelae of their action on the organism and their bearing on disability claims; antituberculosis and antivenereal campaigns in the army; the lessons of the war as regards the treatment of fractures of the extremities; and purification of water in the field. All manuscripts and communications bearing on these questions should reach the Secrétariat Général du Congrès, Hôpital Militaire de Liége, Belgium, by May 1. They may be written in French, English or Italian. The registration fee is 25 Belgian francs. The president of the congress is Dr. Wibin, inspector general of the army medical corps; the vice presidents are Drs. Depage, Wolf, Willems and Derache.

Deaths in Other Countries

Dr. **M. del Gaizo**, professor of history of medicine at the University of Naples, aged 67. His numerous and important works on the history of medicine have appeared in *Janus*, the *Riforma Medica* and other European journals.——Dr. **A. Cavazzani**, instructor in medical pathology and pediatrics at the University of Pisa, and writer on these subjects.——Dr. **R. Pöch**, professor of anthropology, and ethnography at the University of Vienna, an authority on tropical diseases from his many scientific missions to uncivilized lands. His collections include phonogram archives, and the anthropometric data collected from 10,000 prisoners of war.——Dr. **G. Gaertner**, professor of pathology at the University of Vienna, aged 66. His works on conduction of electricity and his apparatus, among them the ergostat, the electric two-cell bath, the tonometer, and his infant food, have made his name familiar. ——Dr. **I. Bloch**, a well known practitioner in Paris.——Dr. **F. Selberg**, a leader in the organization of the profession in Berlin, aged 77.

CORRECTION

Chiropractors Not Licensed in West Virginia.—Dr. R. T. Davis, former commissioner of health of West Virginia, calls attention to an error appearing in the report of the West Virginia October examination, published in THE JOURNAL of March 26, 1921, on page 885. Instead of a "chiropractor," it should have read a "chiropodist." Chiropodists are examined by the licensing board of West Virginia.

Government Services

MEDICAL OFFICERS, UNITED STATES NAVY, RELIEVED FROM ACTIVE DUTY

CALIFORNIA

Los Angeles—Pierce, S. N.
San Diego—Donnell, R. H.
San Francisco—Fielder, R. L.

MISSOURI

Columbia—Stone, W. E.

Intensive Training for Graduates

Members of the graduating class of the Army Medical School consisting of sixty-nine officers of the Medical Corps of the Regular Army on the completion of their course in Washington will be sent about the last of May to the Medical Field Service School at Carlisle Barracks, Pa., for an intensive course of six weeks in field training beginning the first week in June.

Wants Appropriation for Station

The United States Public Health Service will ask Congress at its special session for $200,000 to improve and equip the quarantine station at New York City. The inrush of immigrants to the United States during the past year has made the facilities for examining, delousing and fumigating persons passing through this station wholly inadequate and much delay has been experienced in handling immigrants. The United States Public Health Service took over this station from the state of New York last year.

Training Camp for Medical Students

Plans are being outlined by the Surgeon-General of the Army for the summer training camp for members of the Reserve Officers' Training Corps. The camp will be located at Carlisle Barracks and will be operated by the Medical Department in connection with its Medical Field Service School. It is expected that 150 medical, dental and veterinary students will attend. The course will begin June 6 and end July 16. Medical students, who have taken the Reserve Officers' Training Corps courses at various universities of the country, will make up the personnel of the camp.

Executive Officer Appointed to Handle Correspondence for Public Health Service

Surg.-Gen. Hugh S. Cumming has assigned Surg. J. D. Long to duty as executive officer in the United States Public Health Service and he will have complete charge of the handling of all correspondence in the Surgeon-General's office. The appointment was made because of the large amount of work that has been thrown on the Surgeon-General, making it impossible for him to handle all the details of his office. Surg. John L. Long was director of health in the Philippine Islands for a number of years, was associated with plague work conducted by the United States Public Health Service in California and recently was supervisor of hospital operations on the Western Coast.

Public Health Service Urges State Laws Concerning Children

Surgeon-General Cumming of the United States Public Health Service is urging the adoption of recommendations made by the National Child Health Council in the revision of children's laws by states now drawing up a new code. Some of the recommendations insist that all restrictions on local expenditures for the health of mothers and children should be repealed and that definite facilities for the education of prospective mothers, their protection in industry and the supervision of their health be adopted. Statutes are urged giving the state health departments the authority to license and supervise all midwives, to require the immediate reporting of all inflammatory conditions of the eyes of the newborn and their proper treatment. Births, including stillbirths, should be promptly reported to local registrars under the health department. All maternity homes should be licensed and supervised. Pasteurization under the inspection of the state of all uncertified milk and its proper handling is included in the recommendations.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 14, 1921.

"The Age of Consent"

Under the present law, "the age of consent" to acts with children between the ages of 13 and 16 and "reasonable cause to believe" that a girl was above the age of "consent" allowed for seduction (16 years) are defenses. The Bishop of London has introduced into the House of Lords a bill to take away these defenses and also to raise the age of "consent" to 17 years. The proposals have given rise to controversy in the press. Sir Herbert Stephen, a well-known jurist, considers that they will tend to facilitate, and so increase, the crimes which they are intended to suppress. His point is that the criminal law is an extremely powerful engine for the diminution of crime so long as it has the full support of the public morality on which it is based, but is of little or no use when that support is wanting. He is satisfied that according to the present morality the immoral acts which are not now unlawful, but are proposed to be made so by the Bishop, ought to be treated as sins and not as crimes. He does not think that it is the feeling of the public that when two young persons are guilty of unchastity or immodesty, and the girl is old enough to take care of herself, the man ought to be legally punished. Indeed, he thinks that the present law is, as it ought to be, a shade in advance of public feeling in the direction of stringency, but not more than the public will tolerate. If the Bishop's proposals are adopted, he believes that juries will refuse to convict because they will regard the law as too severe. In the debate on the bill, Lord Dawson (physician to the London Hospital) said that in certain respects the bill was liable to do evil. After 16, boys developed slowly and steadily, but girls were apt sometimes to develop rapidly and in a few months to pass from girlhood to womanhood. This was particularly likely to occur in those sexually precocious girls to whom the bill particularly applied. In such circumstances it was difficult to throw the whole blame for sexual misdoing on the man. Just in proportion as the girl became a conscious sexual agent she would be jointly to blame. If satisfied that a girl over 16 did not develop into a conscious sexual agent, he would be in favor of raising the age; but the moment she did so she must share the responsibility for a sexual offense. It was not fair to throw the whole onus on the youth—he was not concerned with the man of 25 and upward who had reached a stage in which he was quite capable of forming a stable opinion. They must do one of two things: either leave the age where it was or make both the male and the female responsible to the law for any sexual offense. He did not think that the problem of promiscuous intercourse could be solved in the main by legislation but by social reform. The bill was read a second time.

Poisoning by Illuminating Gas

Before a committee recently appointed by the board of trade to consider the question of limitation of carbon monoxid in illuminating gas, Dr. J. S. Haldane gave important evidence. He said that the poisonous action of the gas was entirely due to carbon monoxid. "The lowest proportion which in time would produce nausea and headache and other symptoms was 0.2 per cent., but in some experiments he was able to endure up to 0.6 per cent. without symptoms, as the result of acclimatization. When pure coal gas was supplied the risk of poisoning was negligible; but when carburetted water gas, containing about four times as much carbon-monoxid as

coal gas, was supplied the risk increased about sixty-four fold. The chief danger was due to burners turned on accidentally in bedrooms. He allowed pure coal gas containing about 7 per cent. of carbon monoxid to escape in a room of about 1,000 cubic feet at the rate of about 40 or 50 cubic feet per hour and found it almost impossible to get a poisonous atmosphere at the sleeping level; the gas tended to go to the roof, and descended only in small proportions. But when the carbon monoxid in the gas was increased to, say, 20 per cent., a poisonous atmosphere was readily produced. In a room of the size mentioned, the final percentage given by gas containing 5 per cent. of carbon monoxid was 0.05; 10 per cent., 0.09; 15 per cent., 0.13, and 20 per cent., 0.18. The lowest percentage which would endanger life in twelve hours varied according to the susceptibility of the person from 0.15 to 0.3. Dr. Haldane therefore suggested that a maximum of 20 per cent. of carbon monoxid in illuminating gas should be laid down. At an inquiry conducted twenty years ago he suggested 12 per cent., but the distribution of gas and the pattern of burners had improved since then. Other witnesses called were two chief engineers and a chief chemist of gas undertakings. They were strongly against any limit for carbon monoxid. One, who represented the company which supplies the greater part of London, stated that in ten years during which the largest quantity of carburetted water gas had been supplied by his company, fifteen deaths occurred from accidental inhalation and eleven from suicide, and in three cases the deaths of sick people had been accelerated.

Sir Felix Semon

The death of Sir Felix Semon at the age of 72 removes a man who was in his day the foremost laryngologist in this country and famous throughout the world. The son of a Berlin Jewish stockbroker, he studied medicine at Heidelberg, and during the Franco-Prussian War served as a volunteer with the Prussian guard. When the war ended he resumed his medical studies, and took the M.D. degree at Berlin in 1873. He then studied at Vienna and Paris, paying special attention to diseases of the throat and nose, and became expert in the use of the laryngoscope, which had only recently been introduced into medicine. Finally he came to London, where in 1875 he was appointed assistant at the Throat Hospital, Bolden Square, and in 1877 physician. In 1882 he became physician in charge of the throat department, St. Thomas' Hospital, and in 1888 laryngologist to the National Hospital for the Paralyzed and Epileptic, Queen's Square. His contributions to laryngology are classical. Perhaps the most important is that known as Semon's law: "In all progressive lesions of the centers and trunks of the motor laryngeal nerves, the abductors of the vocal cords succumb much earlier than the adductors." In conjunction with Sir Victor Horsley he elucidated the central motor innervation of the larynx, and showed that it was practically impossible for a one-sided cortical lesion to produce laryngeal paralysis. A generalization of great practical importance which followed from his researches is that abductor paralysis (which may be associated with adductor) is due to organic disease, while adductor paralysis is in the great majority of cases functional, more rarely myopathic, and then usually due to catarrh. His work on malignant disease of the larynx also is epochal. He showed that of all parts of the larynx the cords were the most prone to attack; he described the early symptoms and elaborated the early diagnosis, and advocated and did much to establish laryngofissure—an operation which has saved thousands of patients throughout the world from avoidable mutilation. Of his other numerous papers, two may be mentioned as not only important but of general interest: "On the Probable Pathological Identity of the Various Forms of Acute Septic Inflammation of the Throat and Neck, Hitherto Described as Acute Oedema of the Larynx, Oedematous Laryngitis, Erysipelas of the Pharynx, Phlegmon of the Pharynx and Larynx, and Angina Ludovici;" and "The Therapeutic Value of Complete Vocal Rest During Sanatorium Treatment of Laryngeal Tuberculosis." In 1884 he founded the *Centralblatt für Laryngologie*, which he edited for twenty-five years. He was an accomplished pianist as well as a musical composer, and an excellent raconteur. He leaves three sons, one of whom is Dr. Henry Semon, a dermatologist.

PARIS

(From Our Regular Correspondent)

March 18, 1921.

The Touching History of Mme. Dr. Madeleine Brès

The medical profession has been greatly moved by the sad plight of Mme. Madeleine Brès, the first French woman to secure the degree of doctor of medicine. Nearly fifty years have elapsed since she gained this distinction, and now she is old (past 80) and blind and entirely without resources. Mme. Brès was matriculated as a student of medicine in 1868 at the medical school of the University of Paris. Two years later the Franco-Prussian War broke out. Madame Brès, who was then in the midst of her studies—married and the mother of three children—requested the privilege of serving as hospital intern and was attached to the service of Professor Broca, in the Hôpital de la Pitié, where she stayed throughout the siege of Paris. This hospital was bombarded, and several shells fell into the wards under Professor Broca and exacted their toll of victims. Of Mme. Brès' services in his department Broca speaks in these terms: "Mme. Brès entered my service in the capacity of élève stagiaire (student assistant) in 1869. In September, 1870, several internships being vacant, owing to the fact that the occupants had been summoned to military hospitals, it became necessary to appoint provisional interns. Mme. Brès, at my suggestion, was selected as provisional intern. She held that office during the two sieges of Paris, and remained until July, 1871. Her duties were always well performed and her conduct was irreproachable." The director of the hospital says, in a similar vein: "Mme. Brès was always conspicuous by her zeal, her devotion and her excellent conduct. She was of great aid to us, especially during the recent insurrection." Professors Gavarret, Paul Lorain, Sapey and Dean Wurtz commend her thus: "By her zeal for work, her ardor in the hospital service and her perfect conduct and bearing, we are pleased to state that Mme. Brès has justified our departure in opening our courses to students of feminine sex. Mme. Brès has won the respect of all the students with whom she has been associated." In spite of such testimonials, in 1871, the Conseil de surveillance de l'assistance publique denied her the right to compete for an internship, lest thereby an undesirable precedent might be created. Notwithstanding this rebuff, Mme. Brès continued her studies. In 1875 she passed her examination, and the subject of her thesis was "De la mamelle et de l'allaitement." From that time on, she practiced in Paris—modestly and quietly—devoting herself to the diseases of women and children. In order to bring relief to Mme. Brès in her present condition, an appeal was made to the Association générale des médecins de France. But, according to the by-laws of the Association générale, no one outside its own membership may be given aid. Mme. Brès had not been a member of the association. She had lived isolated—*en sauvage*, as we say—and had not been connected with any mutual aid societies. In view of this state of affairs, Mme. Dr. Alice Sollier has taken the initiative and has opened a subscription in favor of Mme. Brès. Gifts may be sent to Mme. Dr. Alice Sollier, Sanatorium de Boulogne, 145, route de Versailles, à Boulogne-sur-Seine.

The Hospital Policy of the City of Paris

With the disappearance of the fortifications and the preparation of plans for the extension of the city limits, it becomes the duty of the administrative authorities to determine in what directions the capital and its suburbs are to develop. In this connection, the fifth commission of the municipal council is considering carefully the question as to what sites should be assigned to hospitals. The brunt of the work of investigation that needs to be done has been entrusted to Monsieur de Fontenay, who thus finds himself called on to determine what part urban and what part rural hospitals shall play in the problem of hospitalization for a large city such as Paris.

As the point of departure for his interesting investigations, Monsieur de Fontenay has taken the "ideal plan" as set forth by Dr. Mourier on the occasion of his installation at the head of the Assistance publique. This plan consists in carrying over into the civil domain some of the ideas worked out, during the war, for war hospitals. The main feature would be to leave in the city center only first-aid stations from which the sick and wounded, having been carefully sifted, would be transported to special services organized and equipped for the work devolving on them. Monsieur de Fontenay outlines his policy in these words: "The preferable solution is to adopt a program of exteriorization; that is to say, a plan by which many of the hospitals now located in the center of the city would be transferred to the suburbs and elsewhere. Restrictions would be imposed on certain classes of patients at the start, with the idea of increasing the restrictions as the plan developed. Our general hospitals would be transformed, in part, into evacuation centers. We would leave here the acute cases—adults and children. We would retain in Paris or in the vicinity, in the suburban hospitals, a small number of chronic patients, not only in the general interest of the patients but also in the interest of science. Maternity cases would usually be kept in the city. To rural hospitals, located in regions with an especially adapted climate, should be sent all tuberculous patients, chronic cases in medicine and surgery, arteriosclerotics and convalescents. Cancer patients would be sent to the country, where suburban hospitals would be established for them in close proximity to radiotherapeutic institutes."

Association for the Development of Medical Relations Between France and Allied and Friendly Countries

In a previous letter I referred to the organization of an association, the object of which is to attract to France on special missions and for study purposes foreign physicians and students, to receive them cordially and to guide them through our laboratories and hospitals, to organize special rapid courses of instruction for them, grouping together in a short course the professors and the subjects that have the most interest for them from the standpoint of their specialty, and to organize also excursions to the medical schools in the provinces and to various spas and health resorts. It also proposes to send to foreign countries certain missions for study and instruction, to promote the circulation of our medical journals, to publish in the medical reviews of the world as many articles as possible of our principal writers (either in French or in translations, as the case may warrant); in short, the purpose is to make better known our medicosocial life and our charitable and welfare organizations. The association will endeavor to have, in every country, a medical correspondent or, better still, a group of medical correspondents, and, at the same time, various foreign countries will be urged to appoint one or more correspondents residing in France and familiar with the language, and, if possible, with the medical mentality of this country, who will keep in touch with the Association des relations médicales. The honorary president of the administrative council is Dean Roger and the actual chairman is Professor Hartmann. The membership of the council is comprised of numerous professors and physicians and surgeons to the hospitals, also general practitioners known throughout the circles of organized medicine. A bureau of information, always in possession of the latest communications, will be open every day in the offices of the Faculty of Medicine (salle Béclard), from 9 to 11 a. m. and from 2 to 5 p. m. A bulletin of information will also be published in the near future.

Reserve Rations of the American Army

Monsieur Rothea, head pharmacist of the French army (with the rank of colonel) and chief of the laboratory for the general inspection of foodstuffs, recently published, in the *Bulletin des sciences pharmacologiques*, a study on the reserve rations of the American army. Rothea reached the conclusion that the entire daily ration contains only 1,239 calories. This amount is manifestly too small in view of the fact that the allowance needed by a man of average size, during rest, is from 2,300 to 3,000 calories for twenty-four hours, depending on the temperature—whether it is intended to be used during the heat of summer or during the cold of winter. The writer states that the reserve rations of the French army contain 3,892 calories, or 2,153 calories more than the American reserve rations. The French reserve rations constitute regular working rations.

BELGIUM

(From Our Regular Correspondent)

March 3, 1921.

The Belgian Red Cross

The Belgian Red Cross has been completely reorganized, and on the occasion of its affiliation with the League of the Red Cross Societies it published its new statutes. One and the same society serves Belgium and the Congo. Its purposes are, in time of war, to (1) lend its aid to the army medical corps, and (2) aid in the care and relief of all war victims, civilian as well as military; and, in time of peace, to (1) organize, in conformity with the needs of the department of national defense, such sanitary formations as are required by the Red Cross in time of war; (2) contribute to the amelioration of the public health, to ward off disease and to relieve the sufferings of the people; (3) contribute to the hospital care and treatment of patients, especially of those suffering from transmissible diseases and industrial wounds, such as victims of accidents; (4) take an active part in all undertakings for the protection of childhood, and (5) to aid the victims of catastrophes and public calamities.

In addition to the general council that presides over the general functions of the society, a standing medical committee, divided into three sections; namely, medicine, surgery and hygiene, has been established. The state universities each nominate three members from their instructional corps to serve in the three sections, respectively, of the medical committee. The army medical corps also nominates three members to serve in these three sections. A medical hygienist appointed by the minister of the interior serves in the hygienic section. From a list of names presented by the provincial committees the medical committee will select, to complete the membership of the various sections, two physicians, two surgeons and one hygienist. The members of the medical committee are appointed by royal decree for a term of three years. It is the duty of the medical committee to study into the various questions that are submitted to it by the general council, and it can, on its own initiative, study any other questions of a medical nature lying within the domain of the Red Cross and transmit the results of its studies to the general council. The medical committee is also the connecting link between the medical service of the League of the Red Cross Societies and the Belgian Red Cross.

From the standpoint of the amelioration of public hygiene conditions in general, the organization of supplementary provincial committees is of great value. The mission of these committees would be: (1) to study in their respective provinces, either at the instance of the general council or on their own initiative, any questions relative to the activities of the Red Cross, and transmit their proposals and their suggestions to the general council; (2) to organize conferences with the view to propagating the principles of social hygiene, and (3) to appoint in their respective provinces—in accord with the general council—local committees and committees of women, and to promote various activities needed for the carrying out of the program of the Red Cross.

It will be easy to see that this decentralization of power in public health work, this transference of authority to the hands of physicians, may bring about a social revolution, which will result in the amelioration of the conditions of existence of the people as regards social hygiene and general prophylaxis.

The Campaign Against Narcotics

The campaign against narcotics having become more and more urgent, the minister of the interior has presented to parliament a bill that it is expected will make more effective the measures already in force. The increase in the consumption of narcotics is connected with the suppression of the sale of alcohol in Belgium. On the other hand, the increase may be attributed in part to the more frequent relations with Germany, from which country come, in a large part, the injurious products against which the bill is aimed. In spite of the care with which our borders are patrolled, it seems easy to commit fraud.

Last year an act was passed subjecting the toxic substances to certain restrictions, but the penalties involved are insignificant and nobody seems to worry about them. As the number of morphin addicts was increasing, more serious intervention was necessary and also a more active and more effective surveillance seemed indicated. Our inspectors did not have the right to enter certain establishments where narcotics were being used by habitués in a convivial manner. As the evil is increasing, it was necessary to adopt more energetic measures, and that is the purpose of the present bill, which gives to the government the right to regulate the transport, the sale and the exposure for sale of all toxic products such as cocain, morphin, opium and other narcotics. More severe penalties are provided for the organizers of the séances at which convivial groups indulge in the abuse of narcotics. Also, physicians and pharmacists who support this vice are threatened with heavy penalties. In extreme cases their licenses may be revoked.

Furthermore, the police and also agents of the public health service will have, according to the provisions of the bill, the right to enter apartments where dangerous products are dispensed, and at night they may enter the rendezvous of the unfortunates who indulge in the indiscriminate use of narcotics.

The Functions of the Thymus

Before the Société des sciences médicales et naturelles of Brussels, Dr. Dustin gave an additional report of his researches on the thymus. Observations on seasonal variations; studies on the regeneration of the thymus as the result of special alimentary regimens; grafts and cultures of the thymus; experimental studies on the development of the organ, and observations on mitosis brought about by the injection of various substances have led him to consider the thymus as absolutely distinct from true lymphoid tissues. He also concludes that Hassall's corpuscles—which, furthermore, are lacking in many animals—are not the active agents of an internal secretion. The only function of the thymus that can be indisputably demonstrated has as its agent the "petite cellule thymique" (little thymic cell), by virtue of which nucleoproteins are stored up and given out according to the needs of the organism. This conception constitutes, in the main, the experimental results that have been reached up to the present time. It opens new vistas with respect to the functions and the pathology of the thymus, and also with regard to the still greater question of the cycle of the nucleoproteins, the generation of the tissues, tumors, etc.

The Morphologic Defects of the Ear

Before the Société d'antropologie of Brussels, Monsieur Galet communicated recently the results of his observations, made on a large scale, in the prisons of Brussels. It is well known that to the morphologic defects of the auricula considerable significance is ascribed from the standpoint of degeneracy, criminology and semeiology. In 1,800 prisoners, scarcely more morphologic defects of the ear were observed than in 5,000 nondelinquent subjects. If we compare the total number of malformations and deviations with the type regarded as normal, the difference in the percentages is almost nil. The morphologic alterations of the ear are not sufficiently specific to aid in the determination of specific criminal tendencies, although the percentage of their occurrence in grave and inveterate cases of recidivism is higher than the average.

Annals of Tropical Medicine

The Société belge de médecine tropicale, under the presidency of Dr. Broden, has recently published the first number of its annals, which is a good-sized volume possessing great interest and destined to attract the attention of the medical world. Colonial medicine, the development of which is in keeping with the growing interest that the Belgian people takes in its Congo colony, is assuming more and more importance every day. The review that the Société de médecine tropicale has just published constitutes a medical event of prime importance in the annals of Belgian medicine, and it gives abundant evidence of the reality of an evolution of ideas. The principal subjects discussed are: diagnosis of trypanosomiasis, by Dr. Borden; articles on the symptomatology and therapeutics of yaws, by Dr. Van Nitsen; yellow fever at Matadi, by Dr. Deprez, and various short articles on the treatment of trypanosomiasis.

BUENOS AIRES

(From Our Regular Correspondent)

Feb. 22, 1921.

The Intern Problem

The director of the Public Assistance has stated that his plan for the regulation of the internship has been misunderstood, as he did not intend to abolish the system but improve it, making it more useful for both patients and medical students. The idea of the complete abolition of the intern system in the hospitals he attributes to a socialist alderman whose plan has not been discussed as yet. So far as can be seen, there will be no reduction of the internship, the necessity of which is unanimously recognized as the complement of medical teaching, which makes it also possible to give better care to patients.

University Conflict

A peculiar conflict has nearly revolutionized the medical school and the whole university. Prof. Domingo Cabred, who deserves credit for some important advances in the care of the insane, resigned his chair at the very beginning of the recent university reforms, and his resignation was accepted by the university officer, called interventor. Later he sent a letter withdrawing his resignation and arguing that the president alone can accept it. He asked that he should be reinstated and placed on the examining boards. His application

was rejected by the faculty, but approved by the Superior University Council. The faculty later refused to permit this body to interfere in the matter. Dr. Cabred's friends tried to obtain support on the part of the students, but at a meeting held by these, they declared themselves against his claims.

Exchange of Professors

Dr. José Arce has just concluded in Paris the exchange agreement, established before the war, between Buenos Aires and Paris schools. In August of this year Profs. Marcel Labbé and G. Brumpt will come to Buenos Aires to give lecture courses. The Buenos Aires school will send either heads of clinics or laboratories to take postgraduate courses in Paris. Dr. Arce has given some lectures in Paris and Rome. Dr. Chutro also gave some lectures in Paris and was specially invited to Madrid, where he also lectured.

Peculiar Happening at Rosario

As a sign of the increasing disrespect shown by students toward public institutions, we may mention the recent event at the city of Rosario. A score or so of students took possession of the city hall building, raised a red flag on it, and made several appointments of officers, dismissing others. On their being captured soon afterward by the regular troops, they stated that it was only a joke. Some comment was caused by the fact that in one of their decrees they stated that they would give up their functions to the Communist Federation.

MADRID

(From Our Regular Correspondent)

March 3, 1921.

Suicide in Spain

Dr. Ricardo Pérez Váldes, of the Hospital General of Madrid, has been admitted to membership in the Royal National Academy of Medicine, before which he read an interesting paper on suicide. There are in Spain detailed statistics on this subject, owing to the initiative of a physician, Dr. Gimeno, who while secretary of public education, ordered their compilation by the Geographical and Statistical Institute. Pérez Váldes says that in the Cantabrian slopes, Galicia, Asturias and Santander (northern Spain), where the original Spanish type is most pure (brachicephalus), the suicide rate is much lower than in other Spanish regions. In discussing heredity, he recalled the case of a male patient at the Hospital General who tried twice to kill himself, and whose father, maternal grandfather and brothers had been suicides. Another man, aged 29, after spending several months in the hospital because of toxic neuritis, asked permission to spend Christmas with his family. A few days afterward it was reported that he had killed himself in the same place, at the same time and with the same kind of weapon his father had used to kill himself. The two also died at the same age. The direct relation observed between culture and suicide all over Europe does not apply to Spain, where it is precisely the contrary. The provinces with the smallest proportion of illiterates are generally those which have also the smallest number of suicides. Pérez Valdés reported some interesting cases, showing the relation between suicide and insanity. A girl, aged 25, killed herself, pushing into her brain a tenter-hook which she had to force, striking it with a stone she picked up in the river. A pellagrin, a bull fighter, killed himself by pushing his head inside a pail filled with dirty water, and keeping it there until he suffocated. A poor roving photographer ended his life by braining himself with a heavy hammer after placing carefully beside him a pail so that his blood might fall into it.

Three or four years ago there occurred in Madrid a double suicide. This started a large number of similar suicides which undoubtedly would never have happened if the newspapers had not spread the news. If censorship is ever justified, it is in connection with suicide, since the publication of these facts may be harmful if they fall on predisposed ground.

Castromán's Lecture on Ferrán's Tuberculosis Vaccine

Dr. Rodríguez Castromán, a physician of Montevideo, Uruguay, began using Ferrán's antituberculosis vaccine as soon as it was made known about fifteen years ago. Since then he has tried it in many diseases not related to tuberculosis. The trials made by other authors with nonspecific vaccines and proteins lead us to think that some of Castromán's successes may be due to this mechanism. No matter what interpretation may be placed on the facts, it seems that patients with rheumatism, dermatosis and indefinite digestive troubles improve and even get well with Ferrán's vaccine as applied by Castromán.

BUDAPEST

(From Our Regular Correspondent)

Feb. 25, 1921.

The Rejuvenation Method of Professor Steinach

Dr. Eugen Steinach, two decades ago professor of physiology at the Prague German University, and since 1912 director of the physiologic section of the Vienna Experimental Biologic Institute, published a paper in the *Archiv für Entwicklungsmechanik*, Rejuvenation Through Experimental Revivifying of the Senescent Puberty Glands (Verjungung durch experimentelle Neubelebung der alternden Pubertätsdrusen). The article has since been published in book form by Springer in Berlin. The work aroused great surprise not only in the medical but also in the lay press. Steinach's method proposes to rejuvenate the organism bodily as well as mentally. He conducted experiments on birds, insects, amphibia and finally on mammals. It has long been known that if a male animal is castrated during its youth, the male characters do not develop. Likewise in females, if the ovaries are removed, the external female characters vanish. Steinach and others have shown by experiments that in the sexual glands the cell groups located between the cell-building structures—in males the Leydig interstitial cells, in females the lutein cells, in the atresic follicles—are those which supply with their internal secretion (incretion, Roux) those stimulating substances which decide the specific sexual characters. These constituents of the sexual glands have been named by Steinach the puberty glands.

The evolution of the sexual character has also been studied by Tandler and Gross and by Dr. Keller, professor of obstetrics at the veterinary high school in Vienna. Their results have been compiled by Lipschütz in a book entitled "Die Pubertätsdruse und ihre Wirkungen." Lipschütz has added many interesting items to the results. According to him the embryonal stage is an asexual period, whereas Lenhossek and others argue that the sex of the developing embryo is decided from the time of fecundation.

Steinach aroused great admiration at the session of the German physicians and natural history workers, held in Vienna in 1913, with his lecture on the feminization of male animals and masculinization of female animals. With his experimental methods he proved that it is possible entirely to change the sexual character in young adolescent animals by the exchange of the puberty glands. He meant to prove that the embryo does not start to develop unisexually or bisexually, but it is sexually indifferent (asexual period) and the sexual differentiation ensues only with the development of the puberty glands. This question has been largely dealt with, together with results of new experiments by Paul Kammerer (who as well as Lipschütz is a collaborator of Steinach), in the seventeenth volume of the *Ergebnisse der inneren Medizin*, 1919.

Steinach's experiments aiming at the rejuvenation of the organism have been most successful with rats. Before all he had to bring up an entirely healthy generation and to study the process of their living until the advent of death with special regard to the manifestation of growing old. The growing old of male rats is characterized by the bristling and crumpling of their hair, the hanging of the head, the curving of the back, the loss of body weight, the want of appetite, the weakening of the muscles, and the withdrawing of the animal from the outer world. Steinach tried to rejuvenate these rats with three different methods. The best and simplest method proved to be ligation of the vas deferens on one side. Another method consisted of the application of roentgen rays. The third method consisted of transplanting the sexual gland of a young animal into one growing old. Three weeks after ligation of the vas deferens the whole behavior changed; the rat began to keep its head erect, came forward from its hole, paid a lively interest toward the outer world, and its hair began to become smooth and shiny; when another male rat had been let into its cage it attacked him immediately, and when a female rat was let in, it eagerly performed the sexual function, and as only one vas deferens was ligated, the coitus was successful. The young of the female fecundated by the rejuvenated rats thrived well, and propagated further.

Steinach tried to rejuvenate senile men by ligating the vas deferens on one side—employing local anesthesia. The method proved successful in these cases too, because the outer appearance of these subjects became youngish, fresh, their bodily strength increased, the tremor of their hand disappeared, memory and will power returned, and the sexual power was restored. With females mild irradiation of the ovaries led to good results, the treated women alleging that they regained their entire mental and bodily freshness. The number of experiments made is not sufficient to draw final conclusions, and the period of observation is relatively short to form definite judgment. Besides, there are as yet only one-sided publications at our disposal. At any rate, it is certain that the experimental rejuvenation is successful on lower animals and that the secretion of the puberty glands produced by artificial stimulation when getting into the organism, is capable of producing great changes.

The Austrian press started a movement to collect money for the enlargement of Steinach's small institute, in order to make it possible for him to lay his further experiments on a broader basis.

On February 8 there was a well attended meeting of the Society of Psychiatrists and Neurologists at the Wagner-Jauregg Clinic. There Dr. Sigfried Turkel read a paper on the responsibility of the surgeon performing the Steinach operation. He was of the opinion that such an operation can be performed only on mentally sound men, with their expressed consent given in writing. They have to be warned before the operation of evil consequences that might follow such an operation. Patients must not be used for experimental purposes, even if they give their consent to it. On patients of not entirely sound mind, operations must not be performed at all, if such curative results—warranted through the experiences of science—cannot be arrived at. This is true either for the Steinach operation or for treatment by the roentgen ray.

Dr. Bauer discussed the rôle of the interstitial cells in the Steinach theory. He is of the opinion that this question is not entirely solved yet, and he drops the "asexual" period and argued that after fecundation the sex of the embryo is already decided.

Dr. Lichtenstern, lecturer at Vienna University, said that he had performed twenty-one transplantations and thirty-six operations on account of senile changes. In not one single case has any damage been done to the patient, although it is to be admitted that results were not attained in every case. He cured one homosexual patient by Steinach's method.

Dr. Federn represented the standpoint of the psychanalyst Freud and said that Steinach's researches must be regarded as of great importance.

Professor Kolmer demonstrated a great number of microscopic slides which showed the function of the interstitial cells. His observations on animals have not borne out Steinach's theory in every instance.

Professor Strasser was of the opinion that Steinach's method is an advance, and he himself has seen striking results. Nevertheless, it would be too early to introduce the method into general medical practice. It must remain, for the time being, in the hands of the clinics and hospitals.

Marriages

DWIGHT CORWIN HANNA, Port Allegany, Pa., to Miss Florence C. Finger of Steelton, Pa., March 19.

ALEXANDER SANDS ROCHESTER, Los Angeles, to Miss Olive Margaret Redford of San Francisco, March 1.

WILFRED MCLAUREN SHAW, Sumter, S. C., to Miss Jean Van Auker of Youngstown, Ohio, March 28.

GEORGE WOODWORTH LOUGEE, Lynn, Mass., to Miss Florence G. Morse, February 21.

Deaths

Arthur J. Gillette ● St. Paul; St. Paul Medical College, 1886; University of Minnesota, Minneapolis, 1903; aged 57; professor of orthopedic surgery in the University of Minnesota; president of the Minnesota State Medical Association in 1917-1918; founder and surgeon to the Phalen Park Hospital for Crippled Children; surgeon to St. Luke's, St. Joseph's, Bethesda, Lutheran, City, and County hospitals, St. Paul; died, March 24, from cerebral hemorrhage.

David Kindleberger ● Med Dir., Rear Admiral, U. S. Navy (retired), New York; Jefferson Medical College, 1858; aged 86; entered the Navy in 1859; serving with Admiral Farragut's Squadron during the Civil War, the Asiatic Squadron from 1877-1880, was commander of U. S. Naval Hospital, Philadelphia, from 1892-1896, and naval hospital, Guam, in 1914, and retired, Sept. 2, 1896, on attaining the age of 62 years; died, March 25.

Samuel Thomas Weirick ● Capt., M. C., U. S. Army (retired), Washington, D. C.; University of Maryland, Baltimore, 1865; aged 77; a private in the One Hundred and First Ohio Volunteers during the Civil War; served as captain and assistant surgeon of volunteers in 1901; was appointed lieutenant, M. C., U. S. Army, June 16, 1908, and was retired with rank of captain; died at Los Angeles, March 16.

George Ferdinand Cott ● Buffalo; University of Buffalo, 1884; aged 65; captain, M. R. C., U. S. Army, during the World War; emeritus professor of otology and laryngology in, and president of the Alumni Association of his alma mater; surgeon to the City and General hospitals, Buffalo; died, March 22.

William H. Tucker, Halls, Tenn.; Vanderbilt University, Nashville, Tenn., 1886; aged 57; a member and in 1918 vice president of the Tennessee State Medical Association; formerly president of the Lauderdale County Medical Association; died, March 22, from gastric hemorrhage.

Archibald B. Nelson ● Shreveport, La.; Memphis (Tenn.) Hospital Medical College, 1902; aged 44; captain, M. C., U. S. Army, and discharged, May 31, 1919; surgeon to Shreveport Charity Hospital; died in Albuquerque N. M., February 27, from acute dilatation of the heart.

Frederick William Sauer, Hammond, Ind.; University of Michigan, Ann Arbor, 1902; aged 42; a member of the Indiana State Medical Association; local surgeon for the Lake Shore and Michigan Southern and Indiana Harbor railroads; died, March 23, from pneumonia.

● Indicates "Fellow" of the American Medical Association.

Robert Weightman Smith, California, Pa.; Medico-Chirurgical College of Philadelphia, 1915; aged 32; a member of the Medical Society of the State of Pennsylvania; was instantly killed, March 21, when the automobile in which he was riding was struck by a passenger train.

Samuel O'Dell, Swanton, Ohio; Toledo (Ohio) Medical College, 1885; aged 67; a member of the Ohio State Medical Association, at one time mayor of Swanton; was instantly killed, March 20, when the automobile in which he was riding was struck by a passenger train.

David Agnew Crawford ● Guthrie Center, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1883; a specialist in diseases of the eye, ear, nose and throat; died at the Presbyterian Hospital, Chicago, March 14, following an operation for carcinoma of the bowel.

William Preston Beauclerk, Concord, N. H.; University of Vermont, Burlington, 1896; aged 45; a member of the New Hampshire Medical Society; a member of the staff of the Margaret Pillsbury General Hospital, Concord; died, March 17.

Daniel Webster Young, East St. Louis, Ill.; Gross Medical College, Denver, 1898; Hahnemann Medical College and Hospital, Chicago, 1899; aged 53; major, M. C., U. S. Army, and discharged, Oct. 28 1919; died, March 20, from heart disease.

Orlando Tyler Shepard, Dadeville, Ala.; Graffenberg Institute, Dadeville, Ala., 1861; a member of the Medical Association of the State of Alabama; a veteran of the Civil War; died, March 13; from carcinoma of the lower jaw.

Eugene A. Hensel ● San Diego, Calif.; Rush Medical College, Chicago, 1895; a member of the staff of St. Joseph's Hospital, San Diego, and for many years local physician for the Santa Fe Railroad; died, March 17.

Russel T. Olmstead, Versailles, Ind.; Medical College of Ohio, Cincinnati, 1879; aged 70; a member of the Indiana State Medical Association; died, March 25, from injuries received in a fall a few weeks before.

Samuel Alexander Sterrett Metheny ● Philadelphia; Jefferson Medical College, 1894; aged 51; captain, M. C., U. S. Army, and discharged, June 2, 1919; at one time a medical missionary in Syria; died, March 26.

Edward Charles Kiernan, New Haven, Conn.; Yale University School of Medicine, New Haven, 1909; aged 37; lieutenant, M. C., U. S. Army, and discharged, Dec. 23, 1918; died, March 17, from tuberculosis.

Robert William Glaubit, Rockville Center, L. I., N. Y.; University of the City of New York, 1888; aged 56; a member of the Medical Society of the State of New York; died, March 27, from heart disease.

Charles Elijah Case, Tacoma, Wash.; California Medical College, Oakland, 1880; College of Physicians and Surgeons, Chicago, 1886; a member of the Washington State Medical Association; died, March 18.

Stanley Beckwith Eichberg ● Denver; Miami Medical College, Cincinnati, 1907; aged 40; a member of the staff of Mercy, Children's, City and County hospitals; died, March 25, from tumor of the brain.

Roy Harrison Ferguson ● Sante Fe, N. M.; St. Louis University School of Medicine, 1913; aged 34; president of the Santa Fe County Medical Society; died, March 8, from pulmonary tuberculosis.

John Joseph Leary, Staten Island, N. Y.; Syracuse (N. Y.) University College of Medicine, 1917; aged 32; lieutenant, M. C., U. S. Army, and discharged, Oct. 21, 1919; died, March 19, from diphtheria.

Frank Edward Dean, South Shaftsbury, Vt.; Albany (N. Y.) Medical College, 1891; aged 56; a member of the Vermont State Medical Society; died, March 23, from cerebral hemorrhage.

Adolph A. Just, Crookston, Minn.; Hahnemann Medical College and Hospital, Chicago, 1881; aged 69; a member of the Minnesota State Medical Association; died, March 4, from angina pectoris.

Neely McCoy Palmer ● Shreveport, La.; University of Nashville, Tenn., 1907; aged 40; lieutenant, M. C., U. S. Army, and discharged, Feb. 19, 1919; died, March 8.

Robert B. English, Columbus, Kan.; St. Louis Medical College, 1874; aged 70; for several terms coroner of Cherokee County; died, March 16, from heart disease.

Herbert J. Knapp, Brooklyn; New York Homeopathic Medical College, New York, 1884; Barnes Medical College, St. Louis, 1901; aged 56; died, March 25.

Hasse A. Meilike, Clintonville, Wis.; College of Physicians and Surgeons, Keokuk, Iowa, 1887; aged 65; for many years mayor of Clintonville; died, March 17.

Joseph Henry McDougall, Middletown, Conn.; New York Homeopathic Medical College, New York, 1877; aged 65; died, March 20, from heart disease.

William P. Berry, Pascagoula, Miss. (license, Tennessee, 1889); aged 79; formerly a practitioner of Memphis, Tenn.; also a druggist; died, March 23.

William Joseph Costello, Chicago; Chicago College of Medicine and Surgery, 1917; aged 32; died, March 7, from acute dilatation of the heart.

George Edward Muir, Pawnee Rock, Kan.; University of Louisville, Ky., 1894; aged 52; a member of the Kansas Medical Society; died, March 12.

Irvin Willis, Omega, Ga.; Atlanta (Ga.) School of Medicine, 1908; aged 42; a member of the Medical Association of Georgia; died, March 16.

Fletcher Blagborne, Detroit; Michigan College of Medicine, Detroit, 1883; aged 66; at one time mayor of Marine City, Mich.; died, March 16.

James B. Mercer, Kansas City, Kan.; Medico-Chirurgical College of Kansas City, 1905; aged 50; died, March 17, from cerebral hemorrhage.

James McCully, Basehor, Kan.; University of Kansas, Lawrence and Rosedale, 1906; aged 53; also a druggist; died suddenly, March 19.

John Edson Kelsey, Berkeley, Calif.; Cooper Medical College, San Francisco, 1894; also a druggist; died, March 24, from heart disease.

Major Herbert Westbook, Olmsted Falls, Ohio; Cleveland Homeopathic Medical College, 1899; aged 52; died, March 22, from heart disease.

Albert T. Slemons, Edgemoor, Tenn.; University of Tennessee, Memphis, 1888; aged 55; died, suddenly, March 17, from heart disease.

John Harrison Hughes, San Jose, Calif.; California Medical College, San Francisco, 1887; aged 61; died, March 15, from heart disease.

Wilson Darlington Walker, Kelloggsville, Ohio; Pulte Medical College, Cincinnati, 1895; aged 52; died, March 16, from pneumonia.

Juliet E. Hanchett, Syracuse, N. Y.; Woman's Medical College of Pennsylvania, Philadelphia, 1885; aged 64; died, March 29.

Clark L. Miller, Whitewater, Wis.; Chicago Medical College, 1870; aged 78; a veteran of the Civil War; died, March 15.

John Bennett Woodworth, Redlands, Calif.; Starling Medical College, Columbus, Ohio, 1896; aged 51; died, March 16.

James F. Crowley ● Batavia, N. Y.; University of Buffalo, 1885; aged 61; died, March 20, from valvular heart disease.

Thomas M. Topp, Alleghany, Calif.; Chicago Homeopathic Medical College, 1897; aged 51; died, suddenly, March 10.

Irving Francis Wallace, Syracuse, N. Y.; University of Pennsylvania, Philadelphia, 1918; aged 32; died, March 25.

Charles E. Smith, Aspers, Pa.; Hahnemann Medical College of Philadelphia, 1873; aged 90; died, March 16.

John Markle Fuller, Uniontown, Pa. (license, Pennsylvania, years of practice, 1881); aged 77; died, March 12.

Vander K. Corbett, Driftwood, Pa.; Jefferson Medical College, Philadelphia, 1882; aged 62; died, March 3.

Augustus H. Conson, Gainesville, Texas; Bellevue Hospital Medical College, 1874; aged 72; died, March 18.

John Dectur Justice, Hunter, Okla.; Missouri Medical College, St. Louis, 1878; aged 66; died, March 15.

Adelbert M. Gaines, Pea Ridge, Ark.; Barnes Medical College, St. Louis, 1898; aged 66; died, March 14.

Flora L. S. Aldrich, Anoka, Minn.; Minnesota Hospital College, Minneapolis, 1887; died, March 19.

John Vork, Grand Rapids, Mich.; Rush Medical College, Chicago, 1902; aged 45; died, March 14.

Thomas Aaron Holman, Rice, Ill.; Rush Medical College, 1870; aged 77; died, March 11.

Henry Osborne Beattie, Pittsburgh; L.R.C.S. (Ireland), 1883; aged 55; died, March 11.

Joseph K. Knowles, Logan, Iowa; Rush Medical College, 1869; aged 75; died, March 11.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

LASH'S BITTERS

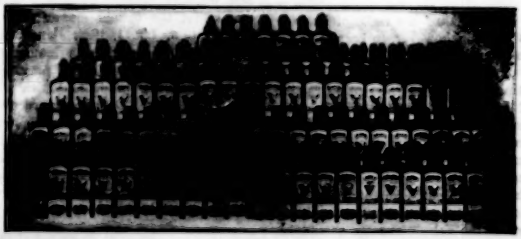
A physician in a middle western state writes:

"I was in to see a patient Saturday, whom I find suffering from chronic Bright's and cirrhosis of the liver. When I started to go his wife opened the closet door and showed me two gunny sacks filled with a 'patent medicine' called 'Lash's Bitters.' All these bottles are dated, the first one was taken January 28 and the last one March 5. There were ninety-one of them in all. This seems to be an unusual amount for a man to take and I thought perhaps you could use it. I have had a picture taken of the empty bottles taken in this time. Before January 28 he was consuming 'Wine of Pepsin' in about the same proportion."

The picture sent in by the physician is reproduced on this page. "Lash's Bitters" comes in bottles containing 22 fluid ounces and the label declares the presence of 18 per cent of alcohol. The directions on the bottle give the dose as "A half small glassful (3 or 4 tablespoonfuls). Increase or decrease as required."

The state chemists of Connecticut, who published a brief report on this nostrum in 1914, described it thus:

"This popular bar-room bitters (our sample was purchased in a saloon) contains 21.46 per cent. of alcohol and 7.83 per cent. of solids, with 2.42 per cent. of vegetable extractives of a more or less laxative nature. The suggestive pictures used to advertise these bitters show it better fitted for the bar-room than the sick chamber."



These 91 bottles of Lash's Bitters were taken in 36 days. Each bottle contains 22 ounces, 18 per cent. of which is alcohol. Thus the person who took this amount was consuming the equivalent of nearly 20 ounces of straight whiskey daily.

Since that time evidently the amount of alcohol has been diminished to 18 per cent. The interesting feature of the case recorded by the physician whose letter appears above is the amount of the nostrum consumed by his patient. From January 28 to March 5, inclusive, is thirty-six days and as there were 91 bottles consumed in this time, the man was taking about 2½ bottles of Lash's Bitters daily, or 55 ounces of a mixture containing 18 per cent. of alcohol. This would be equivalent to about 20 ounces of straight whisky (50 per cent. alcohol) every day

The label on the Lash's Bitters bottle declares: "Guaranteed free from habit-forming or injurious drugs. . . ."

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the U. S. Department of Agriculture

Treatamiento Zendejas.—A quantity of this product, alleged to have been shipped in September and November, 1919, by Panfilo Zendejas of Los Angeles, Cal., was seized in New York on the charge that it was misbranded. The article was labeled, in part, in English and Spanish: "Zendejas Treatment. A strong purifier of the blood, blood depurator for Rheumatism, Constipation, Kidney Troubles, Eczema." When analyzed by the Bureau of Chemistry it was found to consist essentially of a dark-colored solution containing potassium iodid, plant extractives and sugar. The claims made on the label, both in English and Spanish to the effect that it was a purifier of the blood and a remedy for kidney trouble, tumors, jaundice, headache, epilepsy, seasickness and a number of other conditions were declared false and fraudulent. In February, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed. —[*Notice of Judgment No. 8236; issued Feb. 3, 1921.*]

Helmitol.—The Bayer Co., Inc., New York, N. Y., are alleged to have shipped a quantity of this product in June, 1919, from New York to Porto Rico. Analysis by the federal chemists showed the tablets to consist of hexamethylenamin, methylencitrate and talc. It was falsely and fraudulently labeled so as to lead the public to believe that the product was capable of curing and preventing diseases and disorders of the urinary tract. In January, 1920, the Porto Rico Drug Co., San Juan, P. R., claimant, having consented to a decree, judgment of condemnation and forfeiture was entered and it was ordered by the court that the product be delivered on payment of the costs and the execution of a bond.—[*Notice of Judgment No. 8163; issued Jan. 22, 1921.*]

Self-Help E & I Treatment.—A quantity of this preparation is alleged to have been shipped in March, 1918, by Henry S. Wampole Co. of Baltimore. When analyzed by the Bureau of Chemistry it was found to consist of a liquid for external use and some tablets for internal use. The liquid was reported to be essentially a watery solution of zinc chlorid and glycerin, colored red. The tablets were reported to be essentially cubebs and copaiba balsam with small amounts of santal oil, alum and magnesium oxid. The preparation was falsely and fraudulently represented as an effective treatment for the relief and prevention of gonorrhea (clap), blennorrhea (gleet), leucorrhea (whites) and all forms of acute and inflammatory mucous discharges from the urethra. In January, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8194; issued Jan. 22, 1921.*]

Uriseptic Pills.—A quantity of this preparation, shipped in March and August, 1918, by G. J. Fajardo, New York City to Porto Rico was declared by the federal authorities to be misbranded. It was labeled in part "Uriseptic Pills . . . Prepared by Davis & Lawrence Co., New York." The federal chemists reported that analysis showed the pills to consist essentially of hexamethylenamin, cubebs, santal oil and kava-kava. The preparation was falsely and fraudulently represented as an effective treatment for gonorrhea, acute or chronic inflammation of the bladder or urethra and for diseases resulting from gonorrhea. In March, 1920, Davis & Lawrence Co., claimant, having consented to a decree, judgment of condemnation and forfeiture was entered and the product was released on payment of the costs of the case and the execution of a bond.—[*Notice of Judgment No. 8165; issued Jan. 22, 1921.*]

Pinkolo Ointment.—Government officials seized a quantity of this product that was on sale at Ponce, P. R., in July, 1919, and charged that the product was misbranded. The article was labeled in part: "Oleum Rubrum Pinkolo Guaranteed by Custer Chemical Co., New York." The chemists of the Bureau analyzed the product and reported that it showed that the active ingredients of the ointment were camphor, red mercuric oxid and zinc oxid. It was falsely and fraudulently recommended for the treatment of acute and chronic diseases of the skin and scalp, for eczema, psoriasis, trachoma and

syphilitic ulcers. It was also claimed that it would not only cure diseases of the scalp but would also make the hair grow. In November, 1919, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8230; issued Feb. 3, 1921.*]

Correspondence

THE PARALYSIS FLY, LUCILIA CAESAR: A PLEA FOR COLLECTING ITS TOXIVIRULENT LARVAE FOR EXPERIMENTAL PURPOSES

To the Editor:—There are many noxious agents affecting animals and man which are under investigation now, but the paralysis fly has not as yet received the recognition that it deserves. I began my experiments with the larvae of this fly eight years ago, and as there seems to be at last a wide interest aroused, it appears to be an opportune time to publish a statement as to the best method of obtaining larvae of the highest potency.

Lucilia caesar is truly a ubiquitous insect thriving equally well in the hottest and the coldest climates, and is active in Alaska and in Sweden in the depth of winter wherever it is sheltered from the cold. In summer it enters human habitations only to deposit its eggs. When trapped in the ordinary fly trap, it beats itself to death against the walls of its cage within a few hours. It is possible, however, to keep it under glass in winter, and in summer in a large, shaded fly house, supplied with some form of animal life and the food that it delights in, especially rotting fruit. It can be readily caught in a large fly trap placed over boiling cabbage, which is the greatest attraction that can be offered. There is a fly bait furnished by a house in Berkeley, Calif., which attracts *L. caesar* alone, and thus offers a great advantage to the experimenter, as the house fly does not cumber the trap. A large collapsing bag of cheese cloth could be connected with the top of the trap so as to prevent the fly from beating itself to death against the sides of the cage. The fly should be removed promptly to the fly house. The fly house should be placed under a shed in summer and should consist of an inner and an outer circle of wire screening. A race course is thus provided for the insect which will effectually prevent its pounding against the outer wall of its prison. The entrance to the fly house should be provided with a long vestibule with three screen doors opening inward; or, better still, the vestibule should extend to the inner chamber of the rotunda.

The carcasses of animals dead of limberneck should be placed in boxes of earth, not on the ground. It was found in our earlier experiments that the flies could not live on carrion alone, but rotting fruit is sufficient to keep them in good health. When cold weather approaches, the sides of the shed could be boarded in and a stove placed inside so that experiments could be completed during cold weather.

Undoubtedly a hotbed placed over the buried carcasses of chickens in the early spring would be a very successful mode of getting experimental material early wherever it is known that the fowls have died of limberneck in the late fall and had been buried.

In epidemiologic experimentation, the potency of larvae obtained in the open is exceedingly variable because we cannot discriminate between infected and noninfected *L. caesar*, and also because it is difficult to distinguish *L. caesar* from other species of carrion fly. Our usual method of preparing the material was to take all the larvae from a limberneck carcass, triturate them with glycerin, and determine the lethal dose of this magma. The guinea-pig is the most susceptible of all animals to the toxin, the next most susceptible being the young chicken.

It is earnestly hoped that many institutions and individual scientists will repeat our experiments in the coming fly season, and if further information is desired it will be gladly furnished by our group of incestigators, Dr. T. Wistar White, Dr. Phil Hoffman, Dr. W. E. Wisdom, Dr. Reives, Professor Dutcher of the Minnesota University, and his associate in this experiment, Mr. Wilkins.

E. W. Saunders, M.D., St. Louis.

"MODIFIED SALICYLIC ACID" AND "SAMARIN"

To the Editor:—It is unfortunate that the article recently published in The Journal, relative to certain of our pharmaceutical preparations should appear almost coincident with a definite change of policy we have inaugurated in our Pharmaceutical Department.

The Pharmaceutical Department forms but a small part of the business of the Frank S. Betz Company. For this reason and because of the highly specialized nature of its products, the conduct of the Pharmaceutical Department has been left almost entirely to the head of that department who was responsible not only for the preparations advertised, but also for the sales and advertising policy of that department.

A few months ago our attention was called to certain tendencies in this department and on investigation a definite and decisive change in policy was decided on, with the result that the former manager of the department left our organization, Jan. 1, 1921. Under the new manager a completely revised policy was inaugurated, which included the elimination of many items previously advertised, and the revision of other products, which work has been proceeding since that time. Definite instructions were given the new manager to the effect that every item listed by that department must be able to stand the closest scrutiny in every respect. Only products of recognized and established therapeutic merit and of nonsecret formula were to be catalogued and sold, and these must be advertised in an ethical and conservative manner.

C. A. Taylor,
General Manager, Frank S. Betz Company.

"THE SOURCE OF TUBERCULOSIS IN CHILDHOOD"

To the Editor:—In the editorial comment on the source of tuberculosis in childhood (The Journal, March 26, 1921, p. 866) I find a hint of probable conclusions based on 184 necropsies by Wollstein and Spence in the Baby's Hospital, New York, and would remind the writer of the treatment of the public milk supply in the city of New York. If universal pasteurization of the milk supply furnished young babies is going to accomplish for the public what we promise, then New York's babies should already be showing a less frequency of tuberculosis acquired by swallowing bacilli with milk, and the relative proportions of infections entering by way of the bronchial route as contrasted by those with the alimentary canal should be showing in figures. Studies made in New York and Toronto, where pasteurization has been required now for some years, as contrasted with similar studies in communities not pasteurizing milk, might be of particular value, and is worth a special investigation.

B. Franklin Royer, M.D., Halifax, Nova Scotia.
Executive Officer, Massachusetts-Halifax Health Commission.

Rural Depopulation.—In spite of natural tendencies, the British people, under the influence of commercial development, have been steadily forsaking the fields and flocking into the towns, until the depletion of the country-side has become one of the great tragedies in our history.—Brend.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

CONJUNCTIVITIS FROM HYDROGEN SULPHID

To the Editor:—I do a good deal of work for an oil refinery in a nearly town. One of the accidents that happen not infrequently is that the men in cleaning out the stills have their "eyes gassed," as they express it. It means that at times gases are loose which produce, as nearly as I can diagnose it, a very painful, blinding conjunctivitis, sometimes lasting three or four days, but without suppuration. I have been treating it with 1 per cent. holocain, greasing the lids, and (quite empirically) with raw potato poultices. The last were suggested by some of the old time oil men themselves. This treatment is successful, but I do not feel sure of the why and wherefore.

1. What is the probable composition of these gases?
2. Just what is the effect?
3. What treatment do you advise?
4. Is there any scientific reason for the potato poultices or any value in them, so far as you can see?

Please omit my name. G. M. S., Massachusetts.

ANSWER.—1. The oil which is refined in that section of the country is mostly Mexican oil, which is rich in sulphur. In the refining, much hydrogen sulphid (sulphuretted hydrogen) is liable to be thrown off.

2. The irritating effect of this gas on some eyes is to produce an acute conjunctivitis of the type resembling "pink-eye." Not all eyes are affected, idiosyncrasy playing a part.

3. The treatment consists in removing the person from the source of the irritation, protecting the eyes from strong light and wind, and the instillation of some mild antiseptic lotion, such as a 3 per cent. solution of boric acid, three or four times a day. Cold fomentations to the eyes for a few minutes just before each instillation are often of marked benefit. Under this method of treatment, the eyes will in most cases be cured in about ten days.

4. Potato poultices, and in fact poultices of any kind, are rarely employed in the treatment of eye diseases; they are liable to do more harm than good. They certainly have no place in this condition.

FILARIASIS—ACIDOSIS

To the Editor:—1. Do you know any kind of intravenous injections useful in filariasis?

2. Can you refer me to any good works on acidosis?

F. SUÁREZ GARRO, M.D., San Antonio de los Baños, Cuba.

ANSWER.—1. It is reported that the intravenous injection of soluble antimony salts has a definite effect in reducing or causing the disappearance of the filarial embryos from the peripheral blood, presumably as the result of the destruction of the adult filaria. Rogers, who has probably had more experience with the use of this drug than any one else, cautions that as a rather long course of intravenous injections of a highly toxic drug is required to produce this effect, the treatment requires care in its use. In THE JOURNAL, Sept. 20, 1919, the method of use was thus described:

> The apparatus consists of: 1. Two small 50 c.c. Bohemian flasks, one containing a sterilized solution of antimony tartrate (Antimony and Potassium Tartrate, U. S. P.), ½ grain to 20 minims of distilled water (20 grains to the ounce), the other containing a sterilized solution of physiologic sodium chlorid solution for dilution purposes, each labeled with their respective contents. 2. Two record syringes (glass with metal plungers), a small one of 20 minims, and a large one of 10 c.c. The same size needles are used for both syringes; they should be fine (hypodermic) and sharp with platinum iridium tips (a fine sharp needle is a very important requisite). 3. A small sterilizer, two or three small beakers, crucibles and watch glasses should be ready for holding and mixing solutions, and for containing the solution of antimony and the physiologic sodium chlorid solution ready for use. With a skilful assistant to compress the veins, a tourniquet is unnecessary. A prominent vein of the arm is chosen, preferably not the median basilic at the elbow, as it is in relation to the brachial artery; any prominent vein, however, will do; sometimes a vein at the back of the hand is conveniently conspicuous when others are not. This small operation should be done with much care. It is absolutely necessary to inject the antimony tartrate solution inside the lumen of the vein, or phlebitis and necrosis result. The skin is sterilized with ether or alcohol; iodin may be used, but it has a tendency to obscure the veins on dark skins. Treatment commences with the injection of ½ grain in about 40 or 50 minims of physiologic sodium chlorid solution. Injections take place every other day, equal parts of the antimony solution and the physiologic sodium chlorid solution being used when larger doses are reached. The dose is increased by ½ grain every injection until 2 or 2½ grains have been reached and this is maintained (in the case of boys of 16 or under, 1½ grains is the maximum dose employed). The total quantity of antimony injected would be 20 or 25 grains, according to circumstances. If more than 25 grains are required, the surplus needed should be reserved for a second course. When the dose of antimony tartrate is 1½ grains or 2 grains (sometimes before), a cough immediately on injecting indicates that the antimony is already in the pulmonary circulation, and shows that the drug is both rapid and far reaching in its action.

The *Quarterly Cumulative Index*, 1920, lists the following recent papers on the subject:

Rogers, L.: Antimony Intravenously in Filariasis, *Brit. M. J.* **1**:596 (May 1) 1920.
Low, G. C., and Gregg, A. L.: Antimony in Treatment of Filariasis, *Lancet* **2**:551 (Sept. 11) 1920.
Macfie, J. W. S.: Intravenous Injection of Tartar Emetic in Filariasis, *J. Trop. Med.* **23**:36 (Feb. 2) 1920; *Ann. Trop. Med.* **14**:137 (Nov.) 1920; *Lancet* **1**:654 (March 20) 1920.
Voegtlin, C., and Smith, H. W.: Trypanocidal Action of Antimony Compounds, *J. Pharmacol. & Exper. Therap.* **15**:453 (July) 1920; *Pub. Health Rep.* **35**:2264 (Sept. 24) 1920.
Christopherson, J. B.: Action of Tartrate of Antimony in Intravenous Injections, *Brit. M. J.* **2**:854 (Dec. 4) 1920).

2. The *Quarterly Cumulative Index*, 1920, lists the following articles on acidosis:

Harrop, Jr., G. A., and Benedict, E. M.: Acute Methyl Alcohol Poisoning Associated with Acidosis, THE JOURNAL, Jan. 3, 1920, p. 25.
Jonas, L.: Chemistry of Acidosis, *Therap. Gaz.* **44**:468 (July) 1920.
Kahn, M.: Clinical Significance of Acidosis, *M. Clinics N. America* **4**:345 (July) 1920.
Gittings, J. C.: Clinical Symptoms and Treatment of Acidosis in Early Life, *Therap. Gaz.* **44**:461 (July) 1920.
Hills, T. L.: Determination of Acidosis by Means of H-Ion Concentration, *J. Michigan M. Soc.* **19**:169 (April) 1920.
Rachford, B. K.: Epidemic Acid Intoxication in Acidosis (Parke's Syndrome), *Arch. Pediat.* **37**:651 (Nov.) 1920.
Barach, J. H.: Evidences of Nephritis and Urinary Acidosis, *Am. J. M. Sc.* **159**:398 (March) 1920.
Haggard, H. W., and Henderson, Yandell: Fallacy of Asphyxial Acidosis, *J. Biol. Chem.* **43**:3 (Aug.) 1920.
Donnelly, W. H.: History of Acidosis, *New York M. J.* **112**:246 (Aug. 21) 1920.
Labbe, M.: Acidosis in Course of Acute Abdominal Disease, *Bull. de l'Acad. de méd.* **83**:335 (April 6) 1920; abstr. THE JOURNAL, June 12, 1920, p. 1677.
Hopkins, F. G.: Acidosis in Disease, *Brit. M. J.* **2**:69 (July 17) 1920.
McClanahan, H. M.: Acidosis in Infants and Children, *Nebraska M. J.* **5**:249 (Sept.) 1920.
Chace, A. F., and Myers, V. C.: Acidosis in Nephritis, THE JOURNAL, March 6, 1920, p. 641.
Shaw, B. H.: Acidosis in Nervous Disorders, *J. Ment. Sc.* **66**:244 (July) 1920.
Shaw, B. H.: Acidosis in Certain Nervous Disorders, *Brit. M. J.* **1**:695 (May 22) 1920.
Sweitzer, S. E., and Michelson, H. E.: Acidosis in Skin Diseases, *Arch. Dermat. & Syph.* **2**:61 (July) 1920.
Pierce, G. M.: Acidosis, Mechanism, Recognition and Clinical Manifestations, *New York M. J.* **111**:793 (May 8) 1920.
Ross, E. M.: Occurrence of Acidosis After Anaesthesia, *Canad. M. A. J.* **10**:548 (June) 1920.
McKibben, W. W.: Acidosis of Recurrent Vomiting Type, *Boston M. & S. J.* **182**:219 (Aug. 19) 1920.
Beauchamp, W. W.: Problem of Acidosis in Relation to Disease, *Ohio State M. J.* **16**:488 (July) 1920.
Joslin, E. P.: Severe Diabetes Versus Severe Acidosis in Diabetes, *M. Clinics N. America* **3**:873 (Jan.) 1920.
Stadie, W. C., and Van Slyke, D. D.: Studies of Acidosis: Carbon Dioxide Content and Capacity in Arterial and Venous Blood Plasma, *J. Biol. Chem.* **41**:191 (Feb.) 1920.
Van Slyke, D. D., and Palmer, W. W.: Acidosis: Titration of Organic Acids in Urine, *J. Biol. Chem.* **41**:567 (April) 1920.

ADMINISTRATION OF HEXAMETHYLENAMIN

To the Editor:—Given a case of cystitis with alkaline urine, what would be the proper way to administer urotropin, which is said to act only in an acid urine? Would you give the drug to acidify the urine a short time before each and every dose of urotropin, or wait until the urine was acid (say three or four days), before beginning the urotropin? What is the best drug to use to acidify the urine in there cases?

H. S. GEIGER, M.D., Kissimmee, Fla.

ANSWER.—According to "Useful Drugs" (1921, p. 84), hexamethylenamin (also known under the proprietary names "formin" and "urotropin") "is chiefly excreted in the urine; and when the urine is acid, hexamethylenamin is decomposed, yielding formaldehyd. . . . When the urine is alkaline, the decomposition does not occur and the drug is then ineffective. . . . If the urine is not acid, sodium acid phosphate (NaH_2PO_4) in doses of 1 to 2 gm. should be administered every four hours, midway between the doses of hexamethylenamin. Enough of the acid phosphate should be used to render the urine acid, but not enough to cause diarrhea."

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arkansas: Little Rock, May 10. Sec., Reg. Bd., Dr. T. J. Stout, Brinkley. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

District of Columbia: Washington, April 12. Sec., Dr. Edgar P. Copeland, 1315 Rhode Island Ave., Washington.

Hawaii: Honolulu, April 11. Sec., Dr. Guy C. Milnor, 401 S. Beretania St., Honolulu.

Iowa: Des Moines, April 12-14. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

Kentucky: Louisville, May 10. Sec., Dr. A. T. McCormack, Sixth and Main Sts., Louisville.

Louisiana: New Orleans, May 3. Sec., Dr. F. H. Hardenstein, 702 Maccheca Bldg., New Orleans.

Montana: Helena, April 12. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

Nevada: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.

New Mexico: Santa Fe, April 11-12. Sec., Dr. R. E. McBride, Las Cruces.

New York: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

Oklahoma: Oklahoma City, April 12-13. Sec., Dr. J. M. Byrum, Shawnee.

REPORT FROM PEKING UNION MEDICAL COLLEGE

A report from the Peking Union Medical College, which was established in 1919 by the Rockefeller Foundation,[1] states that the new hospital buildings will be opened to patients during this spring but that the formal opening will be postponed until the opening of the medical college in the fall. At that time a number of noted clinicians and teachers from various parts of the world have been invited to hold clinics and give demonstrations.

The most advanced students are now in the latter half of the second medical years so that at present only the subjects of the premedical and the first two medical years are being given.

Active research is being carried on in all the laboratories which have been finished. The problems handled are connected not only with diseases found in China, but also with those fundamental to medical science everywhere. The members of the department of internal medicine are working on Kala Azar to determine the character of the anemia and the most effective chemotherapy. A member of the chemistry department is investigating the distribution of waste products between cells and plasma in the blood, while another research worker is studying the problems of Chinese diets. The head of the department of ophthalmology is working on the development of the pectinate ligament of the eye and is making some observations on the growth of the human eyeball.

The department of anatomy has published over twenty papers during the seventeen months since the school was opened. This department also has been instrumental in forming the Anatomical and Anthropological Association in China, which already has sixty-three members and is rapidly growing. The purpose of this organization is to advance the science of anatomy and anthropology and through it to establish at the medical college a serviceable collection of anatomical, anthropological and other scientific material.

The pathological department has sent out a circular letter to all foreign doctors in China urging them to send in pathological material for diagnosis and study. The service of diagnosis and report is at present being made free of charge.

The faculty at present consists of forty-one members, including seven full professors, eight associate professors, thirteen associates and thirteen assistants. Of this number, eleven are Chinese, of whom five secured their medical training in the United States. Three other professors from the United States and Canada are on leave of absence or are to take up active work at a later time. There are only thirteen medical students at present enrolled, consisting of six freshmen and seven sophomores. In the three premedical classes there is a total of fifty-nine. There are also two students in the nurses' training school and nineteen graduate students, making a total enrolment in the institution of ninety-three.

1. J. A. M. A. 73: 629 (Aug. 23) 1919.

AID FOR MEDICAL EDUCATION IN AUSTRIA

The Rockefeller Foundation, according to reports, has offered to present $20,000 to each of the Austrian universities at Vienna, Graz, Innsbruck, Prague and Budapest, the money to be used in securing materials and apparatus for the medical laboratories, on condition that equal sums be raised by the faculties themselves. It was found impossible for the faculties to procure so large a sum, even by charging higher tuition fees. To help meet the requirement, it has been arranged, with he consent of the foundation, to tax foreign students who, on account of the exchange value of their money, are able to pay higher fees. Since February 1, therefore, each foreign student will be taxed 20 francs a month for use of the university laboratories, apparatus, etc. Even with this additional means of raising funds, it is feared that enough will not be raised to meet the foundation's terms.

PROPOSED BUILDING PLANS OF THE UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE

An elaborate building plan for its medical school has been adopted by the University of Illinois in cooperation with the state department of public welfare. As previously reported, what was formerly the Cub's ball park, just south of the Cook County Hospital, is to become the campus of the new medical school. The buildings now under construction are a clinical institute, a new building for the Illinois Charitable Eye and Ear Infirmary, a psychiatric institute and an institute for crippled children. Later, according to the plans adopted, the clinical institute and the orthopedic institute will be considerably enlarged and additional buildings will be erected for infectious diseases, venereal diseases, a research institute, a library, class rooms, research laboratories and a dental institute. The Elizabethan style of architecture has been selected—a style attractive not only from the architectural but also from the practical point of view. With the completion of all the proposed buildings, Chicago will have another medical teaching institution which, it is contemplated, will furnish a medical training equal to that obtainable anywhere.

Illinois December Examination

Mr. F. C. Dodds, superintendent of registration, reports the written and practical examination held at Chicago, Dec. 6-8, 1920. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 52 candidates examined, 42 passed and 10 failed. Twenty-one candidates were licensed by reciprocity. The following colleges were represented:

College	Year Grad.	Number Licensed
PASSED		
University of Colorado School of Medicine	(1910) 1, (1914) 1,	2
Chicago College of Medicine and Surgery	(1914)	1
Chicago Hospital College of Med.	(1915) 1, (1918) 2, (1919) 1,	4
Loyola Univ. School of Med.	(1916) 1, (1919) 1, (1920)* 3,	5
Northwestern University	(1918) 1, (1920)* 1,	2
Rush Medical College	(1910) 1, (1919)* 1, (1920) 13,†	15
Northwestern University Woman's Medical School	(1898)	1
St. Louis University School of Medicine	(1919) 1, (1920) 1,	2
Leonard Medical School	(1911) 1,	1
University of Pennsylvania	(1917) 1, (1918) 1,	2
Meharry Medical College	(1913) 2, (1915) 1, (1920) 1,	4
University of Heidelberg, Germany	(1911)‡	1
University of Toronto	(1909)	1
University of Berne, Switzerland	(1917)‡	1
FAILED		
Howard University	(1907)	1
Chicago Medical School	(1920) 2,	2
National Medical University	(1909)‡	1
Leonard Medical School	(1906)	1
Meharry Medical College	(1908) 1, (1910) 1, (1913) 1, (1915) 1, (1916) 1,	5

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
George Washington University	(1908)	Wisconsin
American Medical Missionary College, Chicago	(1910)	Alabama
College of Physicians and Surgeons, Chicago	(1912)	Nebraska
Rush Medical College	(1917)	Iowa
Johns Hopkins University	(1915), (1917)	Maryland
	(1917) Massachusetts, (1919) Missouri	
University of Maryland	(1917)	New Jersey
Tufts College Medical School	(1916)	Maine
University of Michigan	(1896)	Minnesota
St. Louis University School of Medicine	(1919)	Missouri
University of Nebraska College of Medicine	(1917)	Nebraska
University and Bellevue Hospital Medical College	(1911)	New York
Jefferson Medical College	(1918)	California

Meharry Medical Coll...(1905, 2), (1911) Alabama, (1911) Arkansas
Marquette University ..... (1913, 2) Wisconsin

* Degrees for these candidates have been withheld pending completion of their hospital internship.

† Twelve candidates received temporary licenses pending completion of their hospital internship.

‡ Graduation not verified.

Ohio December Examination

Dr. H. M. Platter, secretary, State Medical Board of Ohio, reports the oral, written and practical examination held at Columbus, Dec. 1-3, 1920. The examination covered 10 subjects and included 100 question. An average of 75 per cent. was required to pass. Of the 24 candidates examined, 23 passed and 1 failed. Thirty-one candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University		(1920)	82.6, 83.5
Chicago College of Medicine and Surgery		(1915)	80.6
Loyola University		(1916)	82.5
Northwestern University		(1917)	84.5
University of Maryland		(1913) 75.2,	(1920) 84.2
Harvard Medical College		(1918)	86.7
Eclectic Medical College, Cincinnati		(1920)	78
Western Reserve University		(1920) 78.8,	(1920) 80.7, (1920) 81.6, (1920) 82.1
Jefferson Medical College		(1920)	76, 81.2, 81.6
University of Pennsylvania		(1919)	85.1, 86.9
Vanderbilt University		(1906) 80.3,	(1920) 81
National University, Athens		(1917)*	75
University of Budapest, Hungary		(1915)*	83.2
University of Toronto		(1917)	85.9
	FAILED		
Loyola University		(1918)	72.5

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University		(1919)	Dist. Colum.
Howard University		(1911)	West Virginia, (1916) Texas
Chicago College of Medicine and Surgery		(1909)	Illinois
Rush Medical College		(1907)	Illinois
Indiana University		(1919)	Indiana
State University of Iowa College of Medicine		(1919)	Iowa
Kentucky School of Medicine		(1898)	Penna.
University of Louisville		(1911)	Kentucky
Baltimore Medical College		(1912)	Maryland
Johns Hopkins University		(1912), (1917),	(1919) Maryland
Harvard University		(1919)	New York
Univ. of Michigan Med. School		(1914), (1916),	(1917) Michigan
Beaumont Hospital Medical College, St. Louis		(1897)	Illinois
St. Louis University		(1919)	Missouri
Bellevue Hospital Medical College		(1897)	New York
Cornell University		(1916),	(1918) New York
Fordham University		(1916)	New York
Leonard Medical School		(1906)	Virginia
Starling-Ohio Medical College		(1911)	Michigan
Jefferson Medical College		(1911)	W. Virginia
University of Pennsylvania		(1898)	New Jersey
University of Pittsburgh		(1912)	Penna.
Western Pennsylvania Medical College		(1907)	Penna.
Women's Medical College of Pennsylvania		(1912)	Iowa
Meharry Medical College		(1916)	Missouri
National University, Athens		(1895)*	Illinois

* Graduation not verified.

Oklahoma April Examination

Dr. J. M. Byrum, secretary, Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City, April 11-12, 1920. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Four candidates, including 2 osteopaths, took the physician's and surgeon's examination, all of whom passed. Twenty-six candidates, including 6 osteopaths and 1 undergraduate, were granted physician's and surgeon's certificates by reciprocity. Six candidates were granted reregistration licenses. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Tulane University		(1916)	1
Jefferson Medical College		(1914)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas		(1906), (1910),	(1914) Arkansas
Atlanta Medical College		(1916)	Georgia
College of Physicians and Surgeons, Chicago		(1901)	Kansas
Northwestern University		(1910)	Kansas
Indiana University		(1918)	Indiana
Keokuk Medical College		(1904)	Iowa
Kansas Medical College		(1911)	Kansas
University of Louisville		(1900)	Kentucky
Saginaw Valley Medical College		(1903)	Missouri
Mississippi Medical College		(1912)	New Mexico
Eclectic Medical University, Kansas City, Mo.		(1912)	Arkansas
Missouri Medical College		(1892)	Arkansas
Jefferson Medical College		(1910) Missouri,	(1911) N. Carolina
Meharry Medical College		(1916)	Texas
University of Tennessee		(1914)	Tennessee
Southern Methodist University		(1912)	Texas
Undergraduate			Arkansas

Miscellany

HABIT INDULGENCE IN CERTAIN CACTACEOUS PLANTS AMONG THE INDIANS

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The Gandy bill, now pending in Congress, aims to prohibit the use of "peyote" among the Indian tribes of the Southwest. As this agent is not known among the medical profession at large, and as more romance than fact is found in the literature concerning it, some discussion of the cactaceous plants used in habit indulgence will be attempted here.

Dioscorides described "the thorn called cactos"; since when the cactaceous plants, and others more or less allied, have held some place in therapeutics, and, also, in the desert, a place in habit indulgence.

Probably there has been more use of the maguey species throughout the world than of the Cactaceae. The familiar century plant, *Agave americana*, whose flower scapes I have seen towering 40 feet in the air, grows freely in Mexico. It is not the only Agave there; there are more than 100 species of Agave known, many distributed irregularly throughout the American deserts. In Mexico, *Agave pulque* yields a sweet juice that is quite refreshing when first collected; but it is fermented to yield the national drink of Mexico, known as pulque, which, as ordinarily made, is only mildly intoxicating unless very freely imbibed. But mezcal, also called mescal and aguardiente de maguey, is distilled from it and is a fearful intoxicant to the uninitiated.

A cactaceous plant, *Anhalonium lewini*, first described by Lewin, was introduced into medicine years ago as the "mescal button." Lewin asserted that it acted like strychnin in the lower animals, but gave rise to some of the symptoms characteristic of cannabism in man. He isolated from it a glucosid possessed of a strychnin action and called anhalonin, and sometimes anhaloin. While all parts of the plant have been used, thus accounting for the wide range in dosage recorded in the literature, the active principle is found chiefly in the dried tops of the plant, which are known as mescal buttons in trade. These are brown, circular, and from 1 to 1½ inches in diameter. They are hard but readily soften when placed in the mouth. Homeopathic physicians took up the new drug and made "provings" of it fairly paralleling those of cannabis, but especially stressing "loss of conception of time, difficult enunciation, color visions, dilated pupils, finally collapse and tetanic convulsions." In my own trial of the flowering tops after maturity of the authentic plant, I believe the findings to be approximately correct, though I never carried the dosage very far.

Somewhat later, Prentiss and S. Weir Mitchell reported on the drug, using drop doses of the tincture for various purposes, chiefly as a cardiac and nerve tonic, while Landry employed larger doses as a substitute for opium. Nevertheless, the drug has never taken any stable place in therapeutics, though its toxicity is well established.

It is my belief that this toxic principle occurs in several desert plants, not alone in Anhalonium, and that the "mescal button" of commerce is derived from several sources—from plants commonly called cactaceous, though not all true cacti.

As a matter of fact, Anhalonium is a genus and *Anhalonium lewini* is only one of several forms, the genera of the *Cactaceae (mamillaria, cereus, echinocactus, anhalonium, rhipsolis, epiphyllum, melocactus, pilocereus, phyllocactus* and *echinopsis)* being numerous. Several forms of Anhalonium yield buttons, as do other cacti; and also several varieties of

agave. These buttons are simply the seed pods or fruits. Several cacti yield edible fruits of a pulpy nature, notably several of the opuntias; but most cactus fruit is spiny and becomes dry when ripe, some of them being in the form of buttons, some poisonous and some not. It is safe to beware of those with a bitter taste. The term "mescal button," as applied to Anhalonium, is a botanic misnomer.

I have been unable to find Anhalonium described in our American works on botany, even those written in the Southwest; and I have not seen any specimens of *Anhalonium lewini* in Texas, Arizona, California or the desert of northern Mexico. It is found in certain Mexican valleys, far south of the United States line. But there are hosts of peculiar and poorly defined poisonous plants in the Southwest, some yielding buttons rather similar in appearance. The Mexicans and Indians know the secrets of many of them, just when to gather them, etc.; and the matter is just as much commercialized among them as is poppy growing in the Orient, even to sophistication. The Mexican may make his pulque of *Agave pulque, A. potatorum,* or any other Agave whose sap is not too bitter. Sometimes he will not scruple to use bitter sap, which when fermented makes a drink that causes the drinker to run amuck. So it is with the mescal buttons: some are nearly inert, and some dangerously toxic, depending on their source.

I shall make no attempt here to review the literature on the mescal button or to define exactly what the Indians call "peyote"; it is too contradictory. Any one who has visited the Southwest and endeavored to secure accurate and scientific data on the subject will understand what I mean. But commercial "peyote" is a very distinct menace, not only among the Mexican Indians, but, of late, among many of the tribes throughout the Southwest in the United States.

Perhaps E. O. Watson has defined it as nearly as may be when he says: "Peyote includes the various products of cactaceous plants having effect similar to Indian hemp, opium and other narcotics."

Missionary workers in the Southwest are becoming seriously concerned over the spreading use of mescal buttons, whether called peyote or by other name. In many Indian reservations, practically all the adults are addicted to the use of this agent. Commonly the buttons are chewed, but a tea is also brewed.

Certain Sons of Belial, taking advantage of the tendency of the Indian to religious ceremonial, have been industriously spreading the word among the tribes that partaking of peyote enables the addict to communicate with the Great Spirit. It is true that certain Mexican tribes have long had a superstitious reverence for mescal buttons and have used them on occasion in religious ceremonials; and this old superstition gave the commercial dope vender a great opportunity among the Indians in the United States. This has been carried so far that the "Peyote Church" has actually been incorporated, the members being devotees, who gather for an orgy of frenzy, far worse than the cocain parties held among the negroes.

The government has investigated the use of peyote and found its evil effects to parallel the Oriental abuse of cannabis. The addict becomes indolent, immoral and worthless. The great difficulty in suppressing this habit among the Indians arises from the fact that the commercial interests involved in the peyote traffic are strongly entrenched, and they exploit the Indian, even as similar interests exploiting morphin addicts are strongly entrenched. Added to this is the superstition of the Indian who believes in the Peyote Church. As soon as an effort is made to suppress peyote, the cry is raised that it is unconstitutional to do so and is an invasion of religious liberty. Suppose the negroes of the South had a Cocain Church!

All sorts of substitutes for alcohol are demanded since prohibition has become the national policy. Fortunately, morphin does not appeal to most of the men craving alcohol; but what about cannabis and the allied mescal button? Already smoking tobacco impregnated with cannabis is appearing; and the use of peyote is being taken up by some white men in the Southwest.

Our first duty is to ascertain the exact facts about the new menace confronting us. This article shows how little exact scientific knowledge we have on the subject; but there is no doubt that the Gandy bill or similar legislation is needed, for the protection not only of the Indian, but of the whites as well.

403 North Second Street.

STATE LAWS AUTHORIZING COUNTY AND CITY HOSPITALS

ALABAMA.—Laws 1915, 544: Counties may levy a tax for the purpose of erecting hospitals. County commissioners may vote money for them. Counties may vote bond issues for tuberculosis hospitals.

Laws 1919, 704: Cities may issue bonds for the erection of hospitals.

ARIZONA.—No laws.

ARKANSAS.—No laws.

CALIFORNIA.—Statutes 1907, 366: Counties may construct and maintain hospitals and levy taxes for the indigent sick.

General Laws 1915, 572: Cities of the first class (400,000) may erect hospitals and levy taxes therefor.

COLORADO.—Court Statutes 1914, 2331: Incorporated towns and cities may establish and maintain. No tax provided.

Counties may vote bond issues for hospitals for indigents.

CONNECTICUT.—County unit ignored. Bill authorizing bond issue for state infirmatory now pending.

DELAWARE.—Provides for almshouses only.

FLORIDA.—Has state tuberculosis sanatorium.

GEORGIA.—Laws 1910, 130: An act to provide that in counties having a population of 125,000 or over the power shall be vested in the board of county commissioners, or in the ordinary in the event there is no such board, to grant or refuse permission to establish cemetaries, sanatoriums, hospitals and similar institutions, and to regulate and control the same, and to provide the conditions under which the same may be established and to provide when such institutions may be declared nuisances and to provide a penalty for the violation of this act, and for other purposes.

IDAHO.—Complete Statutes 1919, V. 1, 483: Cities or counties may provide hospitals for infectious diseases.

Complete Statutes 1919, V. 1, 1127: Municipal corporations may establish hospitals.

Complete Statutes 1919, V. 1, 976; County hospitals for indigent sick.

Laws 1919, 175: Tuberculosis hospitals. An enabling act for rural hospitals failed to pass at the last legislature.

ILLINOIS.—Statutes Annual V 1, 954: Cities and towns may erect and establish hospitals.

Statutes Annual V. 2, 1231: May levy a tax not to exceed 3 mills on all taxable property in the city.

Call Annual Laws 1913-1916, 254: Further organization.

Call Annual Laws 1917-1920, 325: Tax raised to 3½ mills.

Section 135-155, Revised Statutes: Authorize the erection of county tuberculosis hospitals, in which cities and counties may join.

INDIANA.—Burns Annual Statutes 1914, V. 4, 250: Every city may establish and maintain hospitals. No tax specified.

Burns Annual Statutes 1914, V. 4, 407: May levy a tax not exceeding 7 cents on each $100 valuation of taxable property of such city.

Counties singly or in combination with other counties may erect and maintain hospitals and may vote bond issues.

IOWA.—Iowa Section 409, Revised Statutes: Authorize counties to vote bond issue to erect and maintain county hospitals.

KANSAS.—General Statutes, Annual 1915, 232: Cities may establish and regulate hospitals.

General Statutes, Annual 1915, 367: May procure land for such purposes. Cities between 6,000 and 10,000 may levy tax

of 0.3 mill on the dollar of taxable property of such city. Cities between 3,000 and 6,000 may levy a tax of 1 mill.

General Statutes, Annual 1915, 571: Organizations and regulation of county hospitals. Manner of submitting proposition and levy of tax.

Laws 1917, 152: Cities between 3,000 and 6,000 may establish, acquire site for, build and maintain public hospitals and may levy in addition to other taxes prescribed by law, a tax therefor, elect hospital trustees, maintain training school for nurses, and the trustees may provide the regulations and rules for operating, managing and conducting the hospitals.

Laws 1919, 218: Counties less than 40,000 may establish and maintain hospitals and levy a tax of 2 mills therefor.

KENTUCKY.—Laws 1920, 21: Counties containing cities of second and third class may establish county hospitals and issue bonds and levy taxes for construction and maintenance of same. Also provides for nurses' training schools.

LOUISIANA.—No laws.

MAINE.—No laws.

MARYLAND.—No laws.

MASSACHUSETTS.—Laws 1911, 621: Act to encourage building of tuberculosis hospitals by cities. Amended. Acts 1912, 691, Acts 1916, 177.

Laws 1913, 99: Subsidies to cities for establishing and maintaining tuberculosis hospitals.

Laws 1915, 126: Cities may establish and maintain hospitals.

MICHIGAN.—Complete Laws 1915, V. 3, 3876: Counties may maintain hospitals and may levy tax of 2 mills. Amended Public Acts 1917, 491, 504.

Public Acts 1919, 57: The tax shall not exceed 0.2 mill on each dollar.

MINNESOTA.—General Statutes 1913, 353: Cities of more than 10,000 and not more than 20,000 may acquire, own and operate hospitals. No tax provided.

Laws 1915, 373: Counties may establish and maintain county tuberculosis sanatoriums.

Laws 1917, 460: Counties of 25,000 may appropriate money for aid of county hospitals.

Laws 1919, 52: Cities of more than 50,000 may levy a tax of 1 mill for maintaining a hospital.

MISSISSIPPI.—Hem. Annual Code 1917, V. 2, 1923: Counties may establish hospitals for persons suffering with pellagra. They may provide charity wards in any hospital in their respective counties.

MISSOURI.—Laws 1915, 201: Counties may establish tuberculosis hospitals. May issue bonds.

Revised Statutes 1919, V. 3, 1021: Tuberculosis sanatorium.

NEBRASKA.—No laws.

NEVADA.—No laws.

NEW HAMPSHIRE.—Public Statutes 1901, 165: Towns may appropriate money to incorporated hospitals and $300 annually or $5,000 for permanent free hospital bed.

NEW JERSEY.—Complete Statutes 1910, V. 1, 1222: Cities shall have power to build, acquire and maintain hospitals.

Complete Statutes 1910, V. 2, 2750: Establishment and maintenance of county hospitals.

Complete Statutes 1910, V. 2, 2759: Establishment and organization of hospitals in cities and towns.

NEW MEXICO.—No laws.

NEW YORK.—Con. Laws Ed. 2, V. 3, 3316: Any town, city or village may acquire a hospital and levy tax for same. Organization and management. Counties of 35,000 or over must, and counties under 35,000 may, erect and maintain tuberculosis hospital.

NORTH CAROLINA.—Greg. Supp. to Pell's Rev. 1913, V. 3, 173: Establishment of county hospitals.

Laws 1917, 543: Towns and townships may also establish hospitals.

NORTH DAKOTA.—Complete laws 1913, V. 1, 861: Cities may erect and establish hospitals and control and regulate the same.

OHIO.—General Code 1, 1116: Counties may establish tuberculosis hospitals.

Laws 1919, 1055: Funds and management of county tuberculosis hospitals.

OKLAHOMA.—Revised Laws 1910, V. 1, 156: Cities of 2,000 may acquire, own and maintain hospitals and levy tax for same.

Laws 1919, 386: Counties may purchase sites and erect hospitals and may call for an election to vote bonds.

OREGON.—Counties may erect and maintain tuberculosis hospitals.

PENNSYLVANIA.—Any county and any city of third class in that county may erect a joint hospital. May issue bonds for such purpose. Counties may erect and maintain contagious disease hospitals.

RHODE ISLAND.—Laws 1917-1918, 347: Towns may appropriate money for use of hospitals.

SOUTH CAROLINA.—Laws 1916, 1169: Enabling Orangeburg County to establish and maintain a hospital and to provide a tax for the same.

Laws 1917, 640: Enabling Spartanburg County to establish and maintain a hospital and to provide a tax for the same.

SOUTH DAKOTA.—Laws 1919, 327: Authorizing counties to establish, erect and maintain county hospitals and to issue bonds for same.

TENNESSEE.—Bald. Cum. Code Supp. 1920, 313: County courts may establish tuberculosis hospitals and raise funds for maintenance.

TEXAS.—Complete stats. 1920, 284: Power of commissioners court to establish or enlarge county hospitals; petition of voters; issue of bonds.

UTAH.—Comp. laws 1917, 381: Counties may erect hospitals.

Laws 1917, 371: Counties may establish and maintain hospitals, levy taxes and issue bonds, elect hospital trustees and maintain training schools for nurses.

Laws 1919, 128: Maternity hospitals under supervision of board of health.

VERMONT.—Gen. laws 1917, 685: Towns may appropriate money for support of nonsectarian hospitals.

Laws 1919, 108: Towns may make appropriations to hospitals for free beds.

VIRGINIA.—Rem. codes and stats. 1915, V. 2, 2849: Counties and towns may establish hospitals.

WASHINGTON.—Code 1919, 507: Cities of first and second classes may erect and establish hospitals.

WEST VIRGINIA.—No laws.

WISCONSIN.—Stats. 1917, 826: Explains power and authority of governing board of municipal hospitals.

WYOMING.—Laws 1917, 100: Counties may aid, establish and maintain memorial county hospitals.

The following states do not have any city or county hospital law although some of them provide for tuberculosis sanatoriums:

Arkansas, Arizona, Connecticut, Delaware, Florida, Louisiana, Maine, Maryland, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Mexico, Ohio, Oregon and West Virginia.

Book Notices

MASSAGE: ITS PRINCIPLES AND PRACTICE. By James B. Mennell, M.A., M.D., B.C., Medical Officer, Physico-Therapeutic Department, St. Thomas' Hospital. With An Introduction by Sir Robert Jones, K.B.E., C.B., F.R.C.S. Second edition. Cloth. Price, $6. Pp. 536, with 169 illustrations. Philadelphia: P. Blakiston's Son & Co., 1920.

To one who is surfeited with books on massage written along conventional lines this volume is refreshing; it not only sounds a note of personal experience throughout, but also contains a number of original and, here and there, unorthodox ideas. On the other hand, it is not intended to serve as a systematic textbook on massage. It is a book particularly suitable for physicians, as it emphasizes rationale more than technic, though the latter is described thoroughly enough and is adequately illustrated for one who has some practical knowledge of the subject. "When a medical man orders massage," says the author, "he should consider the prescription . . . in the same light as . . . that of a potent drug, and watch its effects no less closely, varying the dose and the nature of the dose from time to time according to indications." He should know enough about massage to render his instructions intelligible to the masseur and to warn him of the danger signals of which he must beware. When the anticipated improvement does not occur, the physician should be able to decide whether this is due to overdose —which is the case with considerable frequency—or to insuf-

ficiency of dosage, or whether the remedy is altogether unsuitable to the case. The day has passed when it was enough to "try a little massage" on those unrelieved by more "orthodox remedies." The influence of the war is shown by the large share of attention given to the use of massage in the treatment of injuries and their after-effects, the treatment of deformities, the reeducation of muscles, and to massage as a remedy in the treatment of the wounded. For these portions, the book cannot be too warmly recommended to the surgeon. Nevertheless, there is also an abundance of material of importance to the internist.

Of special interest is the chapter on sacro-iliac strain and subdeltoid bursitis. In it, Mennell describes the results of a two months' visit to America. He finds that "the number of medical men who take any interest in physical therapeutics in the United States is surprisingly small." Among those who do, he noted three schools of thought regarding sacro-iliac "strain." In the first, it is held of trivial importance. These the author thinks are wrong. In the second school, the wearing of a belt is prescribed, though in three separate clinics the condition is treated by three different kinds of belt, and in each case the one belt is regarded as the only satisfactory cure for the complaint. In the third school, any sort of belt is anathema, and reliance is placed entirely on manipulation. Mennell inclines to the opinion that both methods are efficacious in suitable cases, but he is also convinced that both can be injudiciously applied.

Osteopathy, chiropractic and bone-setting are given a remarkably fair exposition. While the less educated among the osteopaths and almost all the chiropractors labor under the delusion that the symptoms for which they apply treatment are due to gross displacement of the vertebrae, and many are too ignorant to be able to define exactly what joints are supposed to be displaced, there is at least one school of osteopathy whose teaching is definite on this point. It acknowledges that minor displacements of the intervertebral joints are impossible, and attributes all the evils for which treatment is applied to "subluxations" of the joints between the articular processes. A "subluxation" is defined by this school as "an immobilization of a joint in a position of normal motion, usually at the extremity of a given movement." Explanation of the effects of subluxation varies, though nearly all agree that it causes pressure on the nerves. On what nerve is usually not specified. Among osteopaths he finds at least three schools of thought. One claims that it can cure practically anything from pneumonia to appendicitis by its manipulations. This school is unquestionably a danger to the public. "The second school holds that the nerve pressures cause pain by direct action, and by reflex can cause almost any trouble not due to recognized infective processes. This is a far less dangerous doctrine, which, were gross displacement of the joints possible, would be quite tenable. It is, however, almost inconceivable that, short of the most severe injury or disease, sufficient displacement can take place to cause pressure on the main nerve trunks, and so produce definite symptoms. The third school, probably quite rightly, ignores the possibility of all gross displacement except as the result of grave injury, but claims that a very minute amount of displacement affects the sympathetic system, and this gives rise to such complaints as headache, neuralgia and neuritis, if in the cervical region; to chronic irritating cough in the dorsal, and to a variety of ills in the lower part of the back, including 'lumbago,' 'sciatica' and 'constipation,' to quote only three. They still, however, maintain the theory of definite subluxation, and that cure depends on 'reduction.'"

Mennell, though admitting that it might be ill advised in the midst of so much doubt and speculation to advance any other theory, still ventures to point to the possibility that "a minute anatomical defect of the articular processes might, by allowing eccentric movement, cause a locking or 'jamming' of the joints on the two sides. This would tend to produce an arthritis, and would at once give rise to reflex spasm, particularly in the deeper muscles of the back. There could not fail then to be reflex irritation of the nerves that supply the joints; and possibly also of the nerves which supply the muscles which are thus kept in spasm; and of the nerve trunks which pass out in the vicinity of these muscles." The author, however, strongly insists on the point that there are quite a number of other pathologic conditions affecting the joints and muscles of the back, the nature of which must be determined before rational therapy can be addressed to them. The entire book is stimulating to thought, investigation, and improvement in the practic of mechanotherapy.

THE INDUSTRIAL CLINIC. A Handbook Dealing with Health in Work. By Several Writers; Edited by Edgar L. Collis, M.D., M.R.C.P., Talbot Professor of Preventive Medicine in the University of Wales. Cloth. Price, $3.50. Pp. 239. New York: William Wood and Company, 1920.

Medical examination of workmen is more extensively carried out in England than it is in this country. The character and scope of the examination and the method of conducting it in large industrial plants is thoroughly discussed in this work. The laws governing factories and workshops and the duties of factory inspectors and medical examiners are clearly set forth. What is technically known as "young persons" must first be examined by, and receive a certificate from, the examining surgeon before they may be permitted to go to work. If the young person on examination is found to be physically fit for the particular kind of work in which he desires to engage, he is given a certificate to that effect. The surgeon, for physical reasons, may refuse to issue a certificate, or may issue a qualified certificate with recommendations. An unfortunate defect of the system, however, is that while the surgeon may advise, he has no power to enforce. The author states that "the surgeon often finds it advisable to make recommendations respecting the person, though there is no power to enforce the carrying of them out." The matter is still up to the inspector to heed or disregard the surgeon's recommendations, as he chooses. As a result, much of the good that the surgeon might accomplish is lost, owing to the fact that he has no authority to enforce his recommendations concerning the health and sanitary regulations of the individual or the workshop. In addition to matters that relate personally to the worker, the book contains a great deal of valuable information concerning the shop, such as the question of ventilation, heat and moisture, the arrangement of the light, natural and artificial, and the placing of machines and of safety guards, rest-rooms and first-aid rooms, all of which should be of the greatest practical value, not only to the physician doing industrial surgery, but to all foremen and others who have the supervision of men at work.

THE ROENTGEN DIAGNOSIS OF DISEASES OF THE ALIMENTARY CANAL. By Russell D. Carman, M.D., Head of Section on Roentgenology, Division of Medicine, Mayo Clinic. Second edition. Cloth. Price, $8.50 net. Pp. 676, with 626 illustrations. Philadelphia: W. B. Saunders Company, 1920.

The first edition of this work proved of such great value to the general as well as the roentgenologic profession that this edition is especially welcomed. Being the product of an observer whose experience in this particular work is perhaps unequaled, the book can be looked on as authoritative. All phases of roentgen diagnosis of the alimentary canal are presented in text and illustration. In addition to the typical findings, some of the unusual and rare but instructive cases are described in detail; these provide information that will help in the practical application of the roentgen ray in diagnosis. The chapter on interpretation is especially apropos in view of the present tendency to stress too greatly the roentgen-ray features of gastro-intestinal examination to the more or less exclusion of clinical evidences of disease. It presents the conservative attitude which, after all, is the fairest to the patient and the referring physician. Especially instructive is the reproduction in parallel columns of photographic illustrations and roentgenograms of various lesions of the alimentary canal. In this edition the author has added a chapter on pneumoperitoneal diagnosis, which procedure has of late attracted some attention in certain quarters. The references to the literature indicate that pneumoperitoneum is an old method revived. The book apparently does not contain illustrations of cases in which this method was used to determine pathologic changes in the abdomen. This book occupies a real place in English medical literature. The abundant operative proof which is back of Carman's work makes his presentation doubly valuable to the less experienced, and his conclusions can be relied on as a safe guide.

SURGERY: ITS PRINCIPLES AND PRACTICE. For Students and Practitioners. By Astley Paston Cooper Ashhurst, A.B., M.D., F.A.C.S., Associate in Surgery in the University of Pennsylvania. Second edition. Cloth. Price, $10. Pp. 1202, with 1143 illustrations. Philadelphia: Lea & Febiger, 1920.

The author has thoroughly revised the first edition of his work, and in this edition, with the aid of his colleagues, he introduces valuable information concerning experiences in army hospitals, and applies it to civil surgery. The book is arranged in well planned chapters on general, systemic and regional surgery. The chapter on tumors and surgical pathology might well be elaborated. Those on systemic and regional surgery rival larger systems on surgery, since they contain much of the best of recent developments in operative technic. It may be questioned whether the relative space given to these developments in a book on principles and practice is not a little out of proportion. However, this effort on the part of the author to make the reader acquainted with recent operative technic makes the work valuable for reference. In view of the rapid development of the use of local anesthesia in modern surgery, more detailed descriptions of its use and possibilities would be appreciated. The book contains many well chosen illustrations which are largely original, coming from the undoubtedly large experience of the author. We feel that too little space has been given to roentgen rays as a factor in diagnosis and in therapy. Radium, also, is given possibly too little recognition as a therapeutic agent. Nevertheless, the task, which the author has accomplished in presenting so comprehensive a volume on surgical principles and practice, is well done. The work is up to date, is a pleasure to read, and is recommended to the student for its useful, concise information, and to the practitioner of surgery for the detailed description of recent development in operative technic.

KOMPENDIUM DER KINDERHEILKUNDE MIT BESONDERER BERÜCKSICHTIGUNG DER SÄUGLINGSKRANKHEITEN. Von Professor Dr. Albert Niemann, Privatdozent für Kinderheilkunde an der Universität Berlin. Paper. Price, 18 marks. P. 334. Berlin: S. Karger, 1920.

As the title indicates, this book is not an exhaustive treatise on diseases of children. It is written by one who has been for many years in the department of pediatrics of the University of Berlin and who has had a vast clinical experience. The book has a new arrangement which will appeal to many. This arrangement is logical, and differs essentially from the arrangement of books which one usually sees on the subject. The first part discusses congenital and constitutional diseases. Under this there is first considered the developmental disturbances, and this is again subdivided into disturbances which affect the whole organism, prematurity and infantilism, and disturbances affecting single organisms such as the ductless glands, central nervous system, heart and digestive tract. Among the congenital anomalies were considered exudative diathesis, rickets, constitutional overirritability, and diseases of the blood and blood forming organs. The next part treats of nourishment and nourishment disturbances. This is handled in a manner peculiar to the writer. He does not take any of the usual classifications of nourishment disturbances, but begins with a section on general etiology and then divides them into diseases with diarrhea and diseases with disturbances of nutrition. In the latter he includes the lighter forms of malnutrition, and also marasmus and disturbances due to "mehlnährschaden" and scurvy. Following this section is a section on diseases caused by infection. The book is compact, well written, and, as the arrangement indicates, it is distinctly individual in many ways.

THERAPEUTISCHES VADEMEKUM FÜR DIE KINDERPRAXIS. Von Dr. Hans Kleinschmidt, Professor der Kinderheilkunde an der Universität Hamburg. Second edition. Paper. Price, 15 marks. Pp. 196. Berlin: S. Karger, 1920.

This small compendium of indications for treatment in children's diseases is arranged in parts, general therapeutic measures being given first, and then the feeding of infants, diseases of the new-born, diseases of infants and older children. This is followed by a short chapter on the preparation of foods, and then a list of the German institutions for children. The book contains many helpful hints, but the American reader is struck by the frequent reference to proprietary remedies throughout the book. It is greatly condensed, but should serve a useful purpose in directing treatments, and it contains many helpful suggestions.

Medicolegal

Validity of Note Taken from Patient—Evidence

(Cole v. Wolfskill et al. (Calif.), 192 Pac. R. 549)

The District Court of Appeal of California, Second District, Division 2, in affirming a judgment in favor of the plaintiff, who sued the defendants as executors of the will of a Mrs. Wolfskill, on a note given by her for $12,500, says that it appeared that Mrs. Wolfskill was a widow, about 71 years of age, without business experience until after her husband's death, when she administered his large estate, with the assistance of agents and attorneys. The plaintiff had been for many years her family physician and a neighbor, but there was nothing of a business nature between them prior to the execution of the note, except with regard to his fees, which she had paid. In May, 1915, he, with the assistance of three other physicians whom he called for the purpose, amputated one of her legs. In July, in the presence of the nurse, he jokingly inquired of Mrs. Wolfskill how much he owed her for his visits, to which she responded by inquiring how much she owed him. At that point the nurse left the room, and did not hear the conversation that ensued. Several days later the plaintiff again called, bringing with him the note, which Mrs. Wolfskill signed. At that time she offered to secure the payment of the note by a mortgage on her home, but the plaintiff said that her signature was enough. He also informed her that he had paid the other physicians, and on delivery of the note gave her a receipt for $12,500 for professional services, which, by its terms, included payment of the three assistants. After his departure, Mrs. Wolfskill remarked to the nurse that she thought the charge reasonable, that she would not have been surprised if it had been $20,000, and expressed appreciation of what the plaintiff had done for her. Her two sons, executors of her will, testified that she had a clear, strong mind, a positive character, and was a good house manager. She had administered her husband's estate, which was appraised at $2,600,000, in a satisfactory manner, and no criticism was made of the conduct of any of her business affairs. From this undisputed testimony it was sufficiently established that she was fully capable of contracting, that the plaintiff had rendered her valuable services, and that the note was voluntarily executed by her in settlement therefor, in the belief that the charge was reasonable.

It undoubtedly is the established rule that the relation of physician and patient is confidential, and the law demands the strictest good faith and fair dealing in all transactions arising from that relationship. Once this relation is shown to exist, all dealings between the parties will be closely scrutinized, to ascertain whether the confidence of the trusting party has been betrayed, or his mind unduly influenced to his prejudice. But when satisfactory proof has been made that a person has freely and voluntarily disposed of his property in accordance with his wishes, and his capacity and volition are apparent, the existence of the confidential relation will not prevent the consummation of his desires. It was contended that, by reason of the proof that the note was executed by a patient to her physician during such relationship, the presumption arose that it was obtained by undue influence and without sufficient consideration; but the result of a drastic application of the rule invoked would be to preclude a physician from bargaining with a patient in regard to his fees, and to deprive persons occupying confidential relations of the power of contracting with each other for compensation, which, in all cases, would of necessity be fixed by a court or jury regardless of the circumstances under which the parties arrived at an agreement between themselves.

Counsel argued that it did not appear that Mrs. Wolfskill was informed as to the amounts paid to other physicians or what services were performed by the plaintiff, although peculiarly within his knowledge. It must be borne in mind that

this was an action to recover a debt due from an estate; and the lips of the plaintiff were sealed as effectually by the terms of Section 1880 of the Code of Civil Procedure as the voice of the decedent was stilled by the Grim Reaper. What the plaintiff knew could never be revealed to an earthly tribunal; and what occurred between the parties must ever remain undisclosed to mortal judge. The court was justified in instructing the jury to find for the plaintiff.

A hearing was denied by the Supreme Court of California.

Legality of School Health Inspection Department

(Hallett et al. v. Post Printing & Publishing Co. (Colo.), 192 Pac. R. 658)

The Supreme Court of Colorado, in reversing a judgment in which the plaintiff company was granted an injunction against the defendants, who were the president, secretary and treasurer of the school board of Denver, forbidding them to issue warrants for the maintenance of the school health inspection department which the board had established and in which it was employing physicians, dentists and nurses, holds that such maintenance was within the lawful powers of the board. The court says that the power of the school board to exclude pupils who do not meet reasonable health requirements, which is undoubted, necessitates the conclusion that they have power: (1) To make the requirements, and therefore to take expert advice as to what those requirements ought to be. (2) To determine whether the pupil meets them, which requires expert advice and inspection, and therefore they may employ suitable persons to give such advice and make such inspection. The fact that in small districts this may be impossible is immaterial. It is also undoubted that the board may provide for the physical as well as the mental education of the pupils. It follows that, if they provide physical education, they must, within reasonable limits as to expense and time of pupils, provide for determining what is proper and beneficial for each pupil, by all reasonable means, including examination, physical as well as mental, by suitable persons, and for proper physical exercises and development to overcome defects. This should not include medical or surgical treatment for disease. That would be to make infirmaries or hospitals of the schools. The fact that the persons employed are professional medical men and nurses does not preclude but justifies their employment for such a purpose. If the board were restricted by Section 5925 of the Revised Statutes to the employment of "teachers, mechanics and laborers" only, as was claimed by the plaintiff, they could not employ a lawyer, architect, clerk, secretary, librarian, engineer, or even a superintendent; and, further, if employees are inspecting the children and directing what is to be done for their physical education, they are as certainly teachers are are those principals of large schools who do not actually teach.

As to Chapter 203 of the Laws of 1909, it was contended that, since that act provides a complete system of health inspection for schools, school boards cannot lawfully do more. An examination of the act, however, discloses no purpose on the part of the legislature to provide a complete system of inspection or to restrict school boards in any way. The act provides for a yearly inspection by inexpert principals and teachers of sight, hearing and breathing only, and that without drugs or instruments, at an annual expense of $1,000 for the whole state. The supreme court was asked to hold that the provision for such inspection forbids adequate inspection by experts. The court ought not to impute absurdity unnecessarily. It was not absurd to require such inspection as a minimum, nor, perhaps, to forbid the inexpert to use instruments, however inefficient their inspection might be without them; but, if the legislature should go to the length of establishing such inspection as the maximum of what might lawfully be done for the health of the public school children, would it not be absurd? Section 2 requires no inspection at all, not for infectious disease, physical education, hygiene, personal sanitation, nor for any police purpose. It merely requires principals and teachers to report what is apparent. It is not possible that this act was intended as a complete system to supersede the board's power to protect and physically educate the children.

The provision of the constitution for free schools for all from 6 to 21 years of age did not preclude free schools for those under 6. Why, then, does a provision for inspection of sight, hearing and breathing preclude inspection for measles or curvature of the spine? The fears that school districts will be loaded with unnecessary and expensive experts are groundless. The same argument would apply to teachers, mechanics, laborers and principals. The people of the district can always control the whole matter by changing the board.

The supreme court denied a rehearing.

Injury Held Cause of Death from Apoplexy

(State ex rel. George D. Taylor & Sons et al. v. District Court of Ramsey County et al. (Minn.), 179 N. W. R. 217)

The Supreme Court of Minnesota says that, Aug. 7, 1918, a workman had three fingers of his right hand cut off near the knuckles, and the fourth, or little, finger cut off between the knuckle and phalangeal joints, by a saw. Immediately following the accident he was taken to a hospital, where he was given an anesthetic, followed by proper surgical treatment. He remained at the hospital six days, and while there and some two days after the injury suffered a slight apoplectic stroke, his left side being affected, with paralysis of the face and loss of power of speech. He recovered from the shock, and when he left the hospital was apparently in his normal condition, barring the injury to the hand. He suffered another and more severe stroke, August 13, from which he made only a partial recovery, and a third stroke, October 10, resulted in his death three days later. The medical testimony tended to show that the injury was a severe nervous shock to the man's system, reducing the power of resistance of the tissues of the body, bringing on or causing an embolismic condition which in turn caused the apoplectic strokes, the third of which resulted in his death. The credibility of this evidence was for the trial court. It was competent and was accepted by that court, and its decision in favor of the claim of the man's widow for compensation under the workmen's compensation statute was based thereon. The supreme court finds from the record no sufficient reason for disapproval of that conclusion, and affirms that judgment.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Montgomery, April 19-21.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2-3.
American Association of Physicians, Atlantic City, May 10-11.
American Laryngological Association, Atlantic City, May 30-June 1.
American Medico-Psychological Association, Boston, May 31-June 3.
American Otological Society, Atlantic City, June 1-2.
American Society for Clinical Investigation, Atlantic City, May 9.
Arizona Medical Association, Tucson, April 15-16.
Arkansas Medical Society, Hot Springs, May 3-5.
Association of American Peroral Endoscopists, Atlantic City, June 1.
California, Medical Society of the State of, San Diego, May 10-12.
Connecticut State Medical Society, Hartford, May 18-19.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Illinois State Medical Society, Springfield, May 17-19.
Iowa State Medical Society, Des Moines, May 11-13.
Kansas Medical Society, Wichita, April 26-28.
Louisiana State Medical Society, New Orleans, April 19-21.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-28.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Mississippi State Medical Association, Laurel, May 10-11.
Missouri State Medical Association, St. Joseph, May 17-19.
Nebraska State Medical Association, Lincoln, May 9-12.
New Hampshire Medical Society, Concord, May 25-26.
New Mexico Medical Society, Albuquerque, April 28-30.
New York, Medical Society of the State of, Brooklyn, May 3.
North Carolina, Medical Society of the State of, Pinehurst, April 26-28.
North Dakota State Medical Association, Fargo, May 26-27.
Ohio State Medical Association, Columbus, May 3-5.
Oklahoma State Medical Association, McAlester, May 17-19.
Rhode Island Medical Society, Providence, June 2.
South Carolina Medical Association, Columbia, April 19-20.
South Dakota State Medical Association, Aberdeen, May 24-26.
Tennessee State Medical Association, Nashville, April 12-14.
Texas, State Medical Association of, Dallas, May 10-12.
Western Electro-Therapeutic Association, Kansas City, Mo., April 21-23.
West Virginia State Medical Association, Pence Springs, May 24-26.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Dermatology and Syphilology, Chicago

March, 1921, 3, No. 3

*Application of Cutaneous Sensitization to Disease of Skin. M. F. Engman and W. G. Wander, St. Louis.—p. 223.
*Occupational Dermatitis in Dentists: Susceptibility to Procain. C. G. Lane, Boston.—p. 235.
Fifth Case of Scleroderma with Arsenic in Urine. S. Ayres, Jr., Los Angeles, Calif.—p. 245.
*Value of Iodin in Treatment of Leprosy. J. T. Wayson, Honolulu, H. I.—p. 248.
Roentgen-Ray from Pathologic Point of View. D. L. Satenstein and J. Remer, New York.—p. 250.
*Experimental Production of Clinical Types of Syphilis in Rabbit. W. H. Brown and L. Pearce, New York.
Study of Arsphenmin-Serum Precipitates and Their Relation to Clinical Reactions. J. F. Schamberg, K. Tokuda and J. A. Kolmer, Philadelphia.—p. 263.
Study of Spinal Fluid in One Thousand Eight Hundred and Sixty-Nine Cases of Syphilis in all Stages. U. J. Wile and C. H. Marshall, Ann Arbor, Mich.—p. 272.
Attempt to Improve Sensitiveness of Complement-Fixation Test for Syphilis without Loss of Accuracy. W. H. Kellogg, Berkeley, Calif.
*Sachs-Georgi Reaction for Syphilis. S. A. Levinson and W. F. Petersen, Chicago.—p. 286.
*Spurious Chancer. J. H. Stokes, Rochester, Minn.—p. 295.

Value of Cutaneous Sensitization Test.—Engman and Wander maintain that the cutaneous sensitization test by the dermal method is of inestimable value as a diagnostic and therapeutic measure in the study and care of urticaria, eczema and several other diseases of the skin. In urticaria, 79 per cent. showed a positive sensitization; in infantile eczema, 78 per cent. and in chronic generalized eczema, 38 per cent. This is an interesting comparison with that of Baker who showed "that the incidence of positive protein sensitization in normal children is negligible," and corresponds with the statistics of Blackfan, who showed a high protein sensitization in infantile eczema.

Procain Dermatitis.—Lane cites the cases of three dentists who had a dermatitis of the hands which appeared since they began to use procain. Since discontinuing its use, or wearing gloves, the irritation has disappeared and their hands have become normal. Furthermore, the evidence of skin tests has been in agreement with the clinical evidence.

Iodin in Leprosy.—Wayson has obtained good results from the use of iodalbin in leprosy. Iodalbin contains about 22 per cent. iodin. It is given in 20 grain doses. In association with this intensive use of iodin internally, he has attempted to use an iodinized autogenous serum obtained in the following way: Skin lesions containing large numbers of lepra bacilli are frozen with a carbon dioxid snow pencil to produce a large bulla. The fluid from these bullae is withdrawn under antiseptic pecautions and reinjected into the patient. Different lesions are used from time to time, but any single lesion is employed until the bacilli can no longer be obtained from it. This process is repeated at from seven to ten day intervals. The basis for this therapeutic method is the belief that iodin, which passes out through all the secretions, would be contained in the serum, thus forming an iodinized autogenous serum. Furthermore, the increased blood supply brought to the part treated with the snow pencil would produce a local phagocytosis, and would aid in bringing the iodin directly in contact with the diseased tissue. Wayson is firmly convinced that this method of using iodin has a curative action in the treatment of leprosy.

Clinical Types of Syphilis.—In the course of investigations dealing with generalized syphilis in the rabbit, it was noted by Brown and Pearce that distinctly different types of disease were frequently produced by inoculations made with a given strain of *Spirochaeta pallida;* it also appeared that there was an appreciable connection between the experimental conditions employed and the type of disease which occurred. Since it has been found possible to convert a disease by diminishing or suppressing the primary reaction, it appeared that by modifying the reaction in different ways, one might produce types of disease which would conform to alterations in the defensive mechanism. Experiments carried out on a large series of animals showed that such was the case. By various experimental procedures, different types of infection were produced, and in this way it was found that there was a definite sequence of tissue involvement or of tissue reactions which made it possible to produce infection or to confer protection on a given group of tissues according to the nature of the means employed. From the manner in which the infection responded to modifications of the defensive reaction, the conclusion was drawn that a wide variation in the clinical type of the disease might be traceable to this one group of causes. This does not eliminate the possibility that variation in the biologic properties of the infectiong organisms may contribute to further variations in the type of disease.

Sachs-Georgi Reaction.—Levinson and Peterson make a preliminary report of more than 1,000 comparative Wassermann and Sachs-Georgi tests. A close parallelism of the two reactions (92 per cent.) existed: in sixty-two cases in which the Wassermann reaction was negative while the Sachs-Georgi reaction was positive or doubtful, the clinical history or examination revealed evidence of syphilis in 58 per cent. Because of its simplicity and the fact that it is frequently positive in syphilitic cases when the Wassermann test is negative, the authors are of the opinion that the Sachs-Georgi reaction offers a valuable aid in the routine examination for syphilis when used in conjunction with the Wassermann reaction.

Spurious Chancre.—The case reported by Stokes has a double interest because it illustrates how perfectly an initial sclerosis may be mimicked by a factitial or benign inflammatory lesion, and how critical one may justly be of accounts of reinfections, superinfections and cures based on the excision of the chancre when the diagnosis of the lesion has been made on clinical criteria alone, without a complete confirmation by dark-field and serologic examination.

Archives of Internal Medicine, Chicago

March 15, 1921, 27, No. 3

*Treatment in Botulism. V. Burke, J. C. Elder and D. Pischel, Stanford University.—p. 265.
*Relation of Hyperthyroidism to Diabetes Mellitus. R. Fitz, Rochester, Minn.—p. 305.
*Ocurrence of Abnormal Leukocytes in Blood in Acute Infections. Acute Benign Lymphoblastosis. W. A. Bloedorn and J. E. Houghton, Annapolis, Md.—p. 315.
*Focal Infection and Selective Localization of Streptococci in Pyelonephritis, Study I. H. C. Bumpus, Jr., and J. G. Meisser, Rochester, Minn.—p. 326.
*Muscular Infantilism. A. Gibson, Winnipeg, Can.—p. 338.
Administration of a Pituitary Extract and Histamin in Case of Diabetes Insipidus. R. B. Gibson and F. T. Martin, Iowa City.—p. 351.
*Influenza Pandemics Depend on Certain Anticyclonic Weather Conditions for Their Development. C. M. Richter, San Francisco.—p. 361.

Treatment of Botulism.—The treatment of botulism is in the experimental stage, and based mainly on insufficient or inexact knowledge. In experimental work with laboratory animals and in the treatment of human cases of botulism there has not been gained sufficient knowledge to develop a scientific treatment. The evidence we have indicates that treatment begun after the symptoms are well advanced will not, in most cases, alter the course of the disease. But we have sufficient experimental evidence to believe that some of those receiving lethal amounts of toxin can be saved by the use of antitoxin if the treatment is begun at about or before the time the symptoms appear. The general treatment of botulism consists of treatment of the digestive tract and stimulation of the nervous system. The authors recommend the use of high enemas that will neutralize the toxin, prevent its absorption and destroy the organisms. Liquid soap neutralizes the toxin, olive oil prevents its absorption and turpentine may have some beneficial action. Iodin and potassium permanganate destroy both the toxin and organisms and might be used to advantage. The effect of soap on the organism is unknown and should be determined. Treatment of the stomach should have in mind the removal of the toxic contents by stimulation of movement or the stomach pump, the prevention of absorption by the use of demulcents and oils or stimulation of secretions, the neutralization of the toxin and the destruction of the organisms. The removal of the stomach

contents is attended with some danger as it may induce pneumonia. The death rate among those vomiting is 75 per cent.; among those not vomiting, 70 per cent. The average time of death of those vomiting is 3.7 days and of those not vomiting 5 days after the ingestion of the toxic food. This indicates that those ingesting the most toxin tend to vomit or the act of vomiting induces a terminal pneumonia. The food taken in with the toxin delays the appearance of the symptoms. This is probably due to a slowing down of the rate of absorption of the toxin. Treatment of the stomach must be begun early, as paralysis of the throat soon sets in and there is great danger of pneumonia.

Relation of Hyperthyroidism to Diabetes Mellitus.—The material presented by Fitz consists of thirty-nine hitherto unreported cases of diabetes complicated by thyroid disease. Five patients with nontoxic goiter were operated on with no mortality, six with toxic adenoma with one death, and six with exophthalmic goiter with one death. Therefore, it does not seem overradical Fitz says to advise operation for properly selected and prepared patients in this group of cases, since the risk does not seem out of proportion to the possible benefit to be gained, and since the prognosis is otherwise very grave.

Acute Benign Lymphoblastosis.—Five cases are reported by Bloedorn and Houghton in which the blood picture gave rise to considerable apprehension. The disease occurred in young adults and as a rule followed an infection of the tonsils or upper respiratory passages. Three of the four cases showed the presence of the organisms of Vincent's angina in throat smears during the acute course of the disease. The blood picture in this type of case bears great similarity to that of acute lymphatic leukemia. However, the total white count never became so large that it could not be accounted for as the result of reaction to acute infection; there was no hemorrhagic tendency and no degenerated or fragile celles were noted in the smears. The predominating type of cell was the lymphoblast and the Rieder type of lymphoblast was frequently noted. All of these cases showed enlargement of the lymphatic glands, particularly the cervical and submaxillary glands. They all pursued a benign course and ended in complete recovery. The term "acute benign lymphoblastosis" is suggested as covering this type of case.

Focal Infection and Pyelonephritis.—It seems from this study by Bumpus and Meisser that pyelonephritis may often be due to focal infections harboring streptococci which have a selective affinity for the urinary tract, and that the colon bacillus which is commonly found and generally believed to be the cause, is of secondary importance.

Muscular Infantilism.—In Gibson's case there was a striking absence of pathologic signs, except an infantile degree and character of muscular power; and the presence of creatin in the urine. On the basis of clinical data, of ergograph and dynamometer records, and the presence of creatin in the urine, Gibson describes this as a case of muscular infantilism. Its ultimate cause is still unknown, and the condition is entirely uninfluenced as yet by treatment. Such observations as have been made tend to negative the suggestion that the endocrine glands are at fault.

Influenza and Anticyclonic Weather.—The assumption, that the propagation of influenza is analogous to that of an infectious disease, Richter claims, has so far no foundation in fact. The cause of influenza is still unknown. The first appearance of influenza cases in a pandemic, and the full development of the latter, are geographically in direct relation to the appearance and development of certain anticyclonic conditions. The successive seizure of great districts of the continent invariably originates in one or the other center of great anticyclonic action on the globe, as in inner Asia, Bokhara, and in Canada during the 1890 pandemic, and as in the region of the "Canary Island High" (Spanish influenza), in Canada during the 1918 pandemic. The influenza pandemic extends, spreads in the same direction and with the same velocity as the great anticyclone spreads from its center over a continent. Increases of influenza morbidity preceding a great pandemic are always in harmony with similar increases of an anticyclonic type of weather.

Archives of Neurology and Psychiatry, Chicago

March, 1921, 5, No. 3

*Study of Some Peculiar Changes found in Axons and Dendrites of Purkinje Cells. S. Uyematsu, Hathorne, Mass.—p. 231.
*Repeated Multiple Minute Corticospinal Hemorrhages with Miliary Aneurysms in Case of Arteriosclerosis. O. J. Raeder, Boston.—p. 270.
Intellectual Status of Patients with Paranoid Dementia Praecix. E. Rawlings, Napa, Calif.—p. 283.
*Cerebellar Fits. R. G. MacRobert and L. Feinier, New York.—p. 296.
*Luminal Therapy in Control of Epileptic Seizures. I. J. Sands, New York.—p. 305.

Changes in Axons and Dendrites.—Swelling of the dendrites and axis cylinders have been reported by various observers under various pathologic conditions, and their opinions concerning the nature of these swelling vary. This study was made to endeavor to determine in what diseases these changes are likely to be found and what significance they may have. Uyematsu selected forty-one cases. All the patients died of psychoses. He states that these peculiar changes are encountered in cerebellums whenever there is a chronic degenerative process. This process may be either of an inflammatory character, the result of malformation, or of toxemia, as for example, from alcohol, and therefore is not specific. Axonal swellings are more frequently observed than dendritic swellings. Axonal swellings may be found in any disease in which the Purkinje cells have undergone degeneration. If, however, degeneration of the Purkinje cells is extreme, axonal swellings are either not to be observed or only a few are encountered as these swellings are stages of degeneration which these cells undergo. The dendritic swellings, on the other hand, are found even with fairly advanced degeneration of the finer dendritic processes and most commonly in senile dementia and congenital brain diseases. The dendritic and axonal swellings are not always of the same intensity in the same case though they are usually associated. Reasons are given for the assumption that the swellings are, in the beginning at least, a reactive process of pathologic but living protoplasm. The diffuse hypertrophy of axons and collaterals which are found associated with focalized swellings, are to be regarded as a regenerative process. Thus the ill nourished or slightly degenerating Purkinje cells appear to make a feeble attempt to increase the thickness of the axons. The "feeble attempt" at regeneration is, however, abortive. The dendritic swellings, though they are not so frequently observed as are axonal swellings, probably are of the same character. The regenerative process, however, is soon followed, as in the axis cylinders, by a degenerative one. The metabolic product which in most instances gives rise to the peculiar swellings is a homogeneously glassy substance. This substance shows a staining reaction similar to that of the amyloid bodies found in the central nervous system. Uyematsu has been unable to determine the definite character of this substance.

Multiple Corticospinal Hemorrhages.—Opinion is divided as to the degree in which miliary aneurysms are a factor in causation of lethal brain hemorrhage. Charcot and Bouchard asserted that a great majority of such deaths were due to miliary aneurysms. Picl said that few, if any, deaths were caused by ruptured miliary aneurysms. Raeder believes that his case supports the latter view, for there is evidence of repeated showers of miliary hemorrhages with recovery in each instance in spite of an extremely high blood pressure 250/160, except in the last instance, in which death was due to intercurrent disease. The man had marked arteriosclerosis with repeated convulsive attacks. Evidence was found, especially in the cortex, of numerous minute hemorrhages of various age and size. Miliary aneurysms, chiefly of the dissecting type, were found in large numbers. They were rare in the interfocal spaces. The various vessel coats could not all be followed over the aneurysms. The vascular lesion was an arteritis with degeneration of the fenestrated membrane and the muscularis, and frequently a degeneration of these coats resulted in a single layer of hyalin substance. Repeated showers of small hemorrhages during a period of almost three years failed to cause death.

Posterior Fossa Tumors as Cause of Convulsions.—In only nine cases in a series of forty-five posterior fossa tumors studied by MacRobert and Feinier phenomena occurred that

might be considered under the caption of "fits." From a study of these cases and a brief review of the literature, the authors have concluded that convulsive phenomena of any sort in tumors of the posterior fossa are rare; that the chief distinguishing feature of those which have been noted is the irregularity and sustained tonicity of the movements, in comparison with the rhythmic clonic movements of forebrain fits. Sudden involuntary movements, similar in a measure to the so-called forced movements which follow experimental ablation of parts of the cerebellum, were observed in some cases. Sudden characteristic disturbances in the function of the cranial nerves in the posterior fossa, such as ticlike spasms and respiratory embarassment, may result from irritation by a tumor in this region. Fits of any kind usually occur late in the illness, after conclusive signs of cerebellar disease have long been present. Jacksonian convulsions, which may result from instability induced by the growth of a tumor in the vicinity of the cerebral motor cortex, are easily distinguishable from cerebellar fits by the deliberate, progressive character of the spasms.

Luminal in Epilepsy.—Luminal, a phenylethylbarbituric acid closely allied to veronal, has given Sands most unusual results in the treatment of eighty-six cases of epilepsy. The sodium luminal rather than the alkaloid itself was used because of its greater solubility. As a general rule, the dose employed was three-fourths of a grain, three times a day, but each patient was carefully studied before a definite dosage was given. While some patients required more than three doses a day, others did better on only one dose given just before retiring. The first improvement noted was a decided decrease in the number of seizures. There was a definite diminution in the nature of the seizures, the convulsions being much milder and of shorter duration. There was a definite decrease and change in the unpleasant after-effects of the seizures. There was a definite favorable impression on the menstrual function of patients. It was possible to parole patients who otherwise would not have been considered fit to leave the institution. The patients became much quieter and more amenable to care and treatment. There was a decided decrease in the number of injuries received during seizures, and in the number of altercations with other patients. Less demands were made on the overworked nursing staff. The after-effect of the drug have been practically nil. There were no cumulative effects in any of the cases; there was no dulness no exanthems, no paralysis, indicative of toxic effects that have been reported by other observers. However, with the discontinuation of the drug, the seizures return at more frequent intervals and with greater intensity. This and the fact that as yet the manner in which the drug acts is not understood, Sands says, would indicate that the drug should be used with caution andl only by trained men.

Boston Medical and Surgical Journal

March 17, 1921, **184**, No. 11

Bone Setters, Osteopaths and Physical Therapeutics. E. H. Bradford, Boston.—p. 267.
Primary Syphilis. C. G. Lane, Boston.—p. 272.
Rectal Abscesses and Their Treatment. T. C. Hill, Boston.—p. 278.
Energy Requirements of Girls from 12 to 17 Years of Age. F. G. Benedict and M. F. Hendry, Boston.—p. 282.

Canadian Medical Association Journal, Toronto

March, 1921, **11**, No. 3

*Prognostic Value of Study of Blood Chemistry in Acute Abdomen. I. M. Rabinowitch.—p. 163.
Toxemias of Pregnancy—Early Recognition and Treatment. T. B. Stevenson.—p. 167.
Epidemiology and Diagnosis of Lethargic Encephalitis. N. B. Gwyn.—p. 169.
Blood Transfusion. S. J. S. Pierce.—p. 174.
Footwear. J. Patterson.—p. 178.
Continuous Fever in Children with Streptococcic Infection in Blood Stream, with Recovery. J. B. Manning.—p. 187.
Fibro-Plastic Tuberculosis in Eye. R. Kerby.—p. 192.
*Recurrent Dislocation of Shoulder Joint. A. Gibson.—p. 194.
Epilepsy. A. G. Morphy.—p. 199.
Plea for More General Use of Local Anesthesia. A. J. Grant.—p. 202.
Seasonal Hay Fever. W. Ness.—p. 205.
Hyperthyroidism—Diagnosis and Treatment. E. M. Eberts.—p. 207.

Value of Blood Chemistry in Acute Abdomen.—A routine study of the blood chemistry made in a number of cases admitted to the Montreal General Hospital having or suspected of having acute intestinal obstruction, acute peritonitis or acute pancreatitis showed that in intestinal obstruction, whether mechanical or adynamic, in acute general peritonitis, and in acute pancreatitis, the blood urea nitrogen rises above the normal in spite of normal kidney function. This rise in the blood urea is therefore due to increased tissue destruction and not to defective kidney elimination. The tissue destruction is probably due to the toxic effect of a proteose absorbed. The maintenance of a high blood urea nitrogen, in the presence of a good kidney function, is indicative of an unfavorable prognosis, in spite of the amelioration of the clinical symptoms.

Operation for Recurrent Dislocation of Shoulder Joint.—Gibson recommends the Clairmont-Erlich operation in which a portion of the deltoid itself is employed as a muscular guard. The principle is the detachment of a portion from the posterior border of the deltoid muscle, and its insinuation through the quadrilateral space to an attachment at the coracoid process. The nerve supply of the segment of the deltoid is retained intact so that on the assumption of the danger position by means of the deltoid fibers, a muscular sling gives active support to the threatened aspect of the capsule.

Illinois Medical Journal, Oak Park

March, 1921, **39**, No. 3

Special Field of Neurologic Surgery After Another Interval. H. Cushing, Boston.—p. 185.
Vaccination in Prevention of Smallpox. W. S. White, Evanston.—p. 195.
Physics and Use of Radium. H. P. Beirne, Quincy.—p. 201.
Twilight Sleep. E. R. Miner, Macomb.—p. 203.
Subsequent Treatment in Casualty Cases. D. Deal, Springfield.—p. 206.
Differential Diagnosis of Duodenal Ulcer and Gallbladder Disease. L. Bloch, Chicago.—p. 209.
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*Acute Respiratory Infection in Man Following Inoculation with Virulent Bacillus Influenzae. R. L. Cecil and G. I. Steffen, Washington, D. C.—p. 201.
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Growth of Gonococcus in Various Gaseous Environments. G. E. Rockwell and C. F. McKhann, Cincinnati.—p. 249.
Activity of Staphylococci in Milk. W. H. Barnes, Berkeley, Calif.—p. 259.
*Influence of Chaulmoogra Oil on Tubercle Bacillus. J. A. Kolmer; L. C. Davis and R. Jager, Philadelphia.—p. 265.
Characteristics of Microcolonies of Some Pathogenic Cocci. R. C. Haner and W. D. Frost, Madison, Wis.—p. 270.
*Changes in Leukocytes and Alkali Reserve of Blood in Experimental Infections. E. P. Hirsch, Chicago.—p. 275.
*Effect of Mustard Gas (Dichlorethylsulphid) on Antibody Formation. L. Hektoen and H. J. Corper, Denver, Colo.—p. 279.
*Effect of Mustard Gas (Dichlorethylsulphid) on Experimental Tuberculosis. H. J. Corper and O. B. Rensch, Denver, Colo.—p. 286.
*Fate of India Ink Injected into Blood. II. Formation of Intracellular Granules and Their Movements. K. Nagao, Chicago.—p. 294.

Experimental Influenza Studies.—The results obtained by Cecil and Steffen in their experiments confirm, in almost every particular, the studies on experimental influenza recently carried out by Blake and Cecil on monkeys. In both instances, the inoculation of virulent influenza bacilli usually gave rise to an acute respiratory disease, similar in many respects to clinical influenza, and characterized by the presence

of influenza bacilli in the discharges. In monkeys the hemolytic streptococcus, when inoculated in the nose and throat, caused no reaction. In man, however, one of the two volunteers developed an acute tonsillitis from which *Streptococcus hemolyticus* was recovered. In both species virulent pneumococci failed in a few trials to excite symptoms.

Botulism from Cheese.—Three persons who had eaten of home-made cottage cheese later examined by Nevin had died. The clinical data furnished suggested different diagnoses, including poliomyelitis, and a definite diagnosis was not made. Two cases were identical; paralysis of the muscles of deglutition, suffusion of the face, ptosis, total dilatation and failure of pupils to react to light, paralysis of the muscles of the throat with difficult speech were present. There was no loss of consciousness or paralysis of any other part of the body. The third patient was unable to swallow, and a considerable quantity of mucus accumulated in the throat. No eye symptoms were evident, doubtless owing to the fact that it was a milder infection, as the death occurred several days after that of the other two patients. Subcutaneous inoculation of 3 c.c. of an emulsion of the cheese after incubation at 37 C. for forty-eight hours, killed guinea-pigs within thirty-six hours. *B. botulinus* was isolated from the cheese. This appears to be the first time that *B. botulinus* has been isolated from cheese, that a soluble bacterial toxin has been detected in cheese, and that *B. botulinus* has been isolated in America.

Acid-Fast Actinomycetes.—In case reported by Henrici and Gardner the condition was diagnosed during life; the organism was isolated in pure culture from the sputum and proved to be different from any of the recorded species; immunologic studies were made and vaccine treatment was tried.

Influence of Chaulmoogra Oil on Tubercle Bacillus.—Undiluted chaulmoogra oil (*Taraktogenos kurzii*, King) and dilutions in liquid petrolatum had no appreciable germicidal influence in vitro on a strain of bovine tubercle bacilli, according to the results observed by Kolmer and others with the technic employed in these experiments. The sodium salts of the total acids of this oil (chaulmoogrates) were not included in this study. Undiluted and diluted chaulmoogra oil had no appreciable germicidal effect on virulent tubercle bacilli as determined by an in vitro-vivo method employing guinea-pigs. Chaulmoogra oil in doses of 0.2 c.c. per hundred gm. body weight, administered by intramuscular injection at weekly intervals (equivalent to 2 c.c. per kilogram or 120 c.c. per 60 kilograms) had none or but slight effect on the course of tuberculosis in infected guinea-pigs. Chaulmoogra oil is relatively nontoxic for guinea-pigs; animals have borne at least eleven intramuscular injections of 0.2 c.c. per hundred gm. without deleterious effect except localized inflammatory changes at the sites of injection.

Leukocytosis and Blood Alkali Reserve.—The results obtained by Hirsch indicate that a general leukocytosis and leukopenia are accompanied by a diminution of the blood alkali reserve. It is possible that the factors lowering the alkali reserve, or that the lowered alkali reserve itself (acidosis) furnish the chemical stimulus necessary for the production of leukocytosis. Apparently the degree of leukocytosis is in ratio not so much with the extent of the initial leukopenia as it is with the degree of alkali reserve depression and the length of time during which it is depressed.

Effect of Mustard Gas on Antibody Formation.—The experiments made by Hektoen and Corper tend to place mustard gas in a class with the leukotoxic agents: benzene, the radioactive preparations of which thorium X is an example, and the roentgen ray, all of which, though probably differing in the details of their mechanism, have a profound effect on the hematopoietic organs, the leukocytes and specific antibody formation.

Effect of Mustard Gas on Tubercule Bacillus.—Mustard gas dissolved in 25 per cent. glycerol is bactericidal toward virulent human tubercle bacilli after an exposure in vitro of at least one-half hour to 0.1 per cent. and after two hours to 0.01 per cent. A virulent human and bovine tubercle bacilli seem to be slighty less sensitive, these organisms requiring an exposure of from four hours to one day to obtain the same results. What part, if any, the hydrolysis of mustard gas in the glycerol played in this experiment was not determined. Mustard gas in 0.1 per cent. strength in 25 per cent. glycerol containing virulent human tubercle bacilli and injected immediately subcutaneously into guinea-pigs entirely prevented the development of systemic tuberculosis in these animals; even 0.01 per cent. mustard gas has a distinct retarding influence on the development of tuberculosis in these animals. This action could not be due to the tissue destructive action of the mustard gas in these concentrations, since the same results were obtained in the absence of ulcers. Mustard gas given subcutaneously to guinea-pigs in amounts consistent with life (0.001 c.c. in glycerol) in a single injection or repeated, at four day intervals for three or four injections, had no appreciable effect on the amount of anatomic tuberculosis resulting from the subcutaneous injections of virulent human tubercle bacilli.

Fate of India Ink Injected Into Blood.—The mechanism of the accumulation of ink granules in the interior of cells would seem to be similar to that of vital staining by soluble dye, being governed largely by physical conditions. The granules being nondiffusible, are not discharged from the cells by any excretory process, but liberated only on disintegration of the cell. The base granules which adsorb ink granules appear to be produced in large numbers by the cells after ink injection, so that the cell becomes filled with ink granules, but in such cases the newly produced granules seem to be more irregular than those present before the injection.

Medical Record, New York

March 19, 1921, 99, No. 12

*Tea Intoxication. M. A. Starr, New York.—p. 463.
Diagnostic Points of Value Found in Urine. W. H. Porter, New York.—p. 465.
*Alveolectomy; for Treatment of Trifacial Neuralgias of Local Origin. S. S. Gross, New York.—p. 470.
*Relation of Pulmonary Infections to Calcium Metabolism: Suggestions for a New Method of Treatment. G. D. Palacios, Carcacas, Venezuela.—p. 475.
Concept of Roentgen-Ray Pathology. IX. Fractures. A. J. Pacini, Washington, D. C.—p. 478.
Appendicitis, and Some of Difficulties Attending Its Diagnosis. A. W. Hammer, Philadelphia.—p. 481.
Roentgen-Ray Treatment of Acne Vulgaris. W. D. Witherbee and J. Remer, New York.—p. 482.
New Broad Street Hospital Technic in Roentgenography. W. H. Dieffenbach. A. J. B. Savage and L. Fox, New York.—p. 483.

March 26, 1921, 99, No. 13

*Myelocytic Variations in Leukemic Blood During Treatment. E. Schisler and E. E. Brown, St. Louis.—p. 505.
*Bordet-Gengou Reaction in Aortic Lesions. E. Goynaroff, Geneva, Switzerland.—p. 510.
*Diagnosis of Intrathoracic Neoplasms. M. Fishberg and M. Steinbach, New York.—p. 513.
*New and Simple Tests for Alkaline Carbonates in Urine. C. Mitchell, Chicago.—p. 516.
Etiology of Multiple Sclerosis (Spirochaetosis Argentinesis). W. H. Hoffmann, Havana, Cuba.—p. 519.
Pauperizing the Public. G. L. Servoss, Reno, Nev.—p. 521.
Concept of Roentgen-Ray Pathology. IX. Fractures. A. J. Pacini, Washington, D. C.—p. 522.

Tea Intoxication.—It is well known, Starr says, that the mental effects of tea can be measured. There is a more rapid train of thought, an increased association of ideas, keener appreciation of things read or heard or seen—and a mental stimulus which they estimate as an increase of mental activity during the first hour of from 5 to 8 per cent. There is a sense of increased power which is attended by a pleasurable sensation, a feeling of brightness, cheerfulness, and mental activity —not perhaps as rapidly developed or as intense as that produced by alcohol, but quite comparable. It explains the growing and almost universal use of tea, especially in the late afternoon when the fatigue, both physical and mental, of the day seems to make one desirous of an artificial stimulant. In Starr's opinion, it would be foolish to assert that this is in any way harmful in moderation. But an occasional case of tea intoxication may occur, and unless the physician is aware of this possibility it may be overlooked. On the other hand, general experience, clinical and laboratory, derived from the study of cases, and personal from the social use of tea leads to the conclusion that much solace and satisfaction is to be obtained from "the cup which cheers but not inebriates."

Alveolectomy for Trifacial Neuralgia.—Gross points out that diseased teeth may be directly or indirectly responsible

for a greater number of trifacial neuralgies than all other causes combined. The regions from which these teeth have been extracted may retain pathologic tissue or the alveolus may have been injured to such an extent as to have caused a jagged condition thereof, over which the mucoperiosteum has healed. These conditions then act as local irritants to the already hyperstimulated peripheral nerve endings. Alveolectomy is the surgical procedure proven to be of great value in the treatment of trifacial neuralgias of local origin.

Calcium Metabolism and Pulmonary Infections.—Palacios claims that the radical indication to prevent or to cure pneumonia, influenzal or otherwise, is to provoke a rapid decalcification from the body of abnormal lime retention. This can be done, as established by the author's clinical experience, by: (1) Suppression of milk and other dairy products during the disease and convalescence. (2) Repeated purgatives, at least one every day. The selected purgative has been castor oil, which has been employed until all the fever is gone, the tongue clean, and the appetite reestablished. (3) Prolonged fasting until the same phenomena of returning health are well established. (4) Plenty of pure filtered, or thoroughly boiled water. In order that the water be entirely lime-free, distilled water is preferred above all other. To this system may be added, when deemed necessary, the indicated drugs to moderate fever or remove pain.

Myelocytic Variations in Leukemic Blood During Treatment.—An attempt was made by Schisler and Brown to determine the extent and nature of the action of benzol and the roentgen ray, separately and combined, on the blood picture in a rather severe case of chronic myeloid leukemia. The roentgen rays and benzol together produced a rapid permament fall in the white count, while the roentgen rays alone produced an immediate rapid fall, with a subsequent rise, in the first instance to the same count as before exposure and in the second trial a decrease, with a subsequent rise to about one third the count preceding exposure. The red count and hemoglobin were not markedly affected by either benzol or roentgen ray but increased steadily as the patient's condition improved. The differential count showed a more or less continuous relative increase of polymorphonuclear leukocytes with a corresponding fall of myelocytes. The relative lymphocytic count after a slight initial increase remained more or less stationary. The roentgen rays seemed to destroy polymorphonuclear leukocytes or to slow up their production, but relatively had no such effect on the red cells or their production. After roentgen-ray exposures the blood smear showed numerous disintegrating white cells. Since the spleen was exposed they were seemingly destroyed within the spleen, hence producing a relative decrease in the circulating blood. Myelocytes showed a tendency to give way to an increase of large mononuclear cells whos nuclei in turn became lobulated, elongated, and horseshoe-shaped, with a relative increase in polymorphonuclears. After the roentgen rays, the myelocytes were still persistent in the blood picture and in the various neutrophilic, basophilic and eosinophilic forms, the eosinophilic persisting longer than the basophilic. Polymorphic eosinophils persisted until late in the course, until only neutrophilic myelocytes were present. After the first two weeks eosinophils were found only occasionally. The roentgen rays in every trial produced a decrease in the absolute number of small lymphocytes but had no constant effect on the relative count. Myelocytes were not so affected, relatively they were decreased by the roentgen ray with no constant effect on the absolute. Benzol, on the other hand, caused a steady fall in the absolute count but did not affect the relative myelocytic count. Polymorphonuclears were destroyed constantly and rapidly by each dose of the roentgen rays. The absolute count was affected more markedly than the relative. Benzol gave a slighter absolute decrease of polymorphonuclears than the roentgen rays, and a more constant and rapid increase relatively. Basophilic myelocytes disappeared readily under benzol, only to reappear temporarily after each dose of roentgen rays. As the blood picture approached normal limits, the basophilic myelocytes were reduced under benzol, reappearing when benzol was discontinued and again being present following roentgen-ray irradiation; on resumption of benzol they again disappeared. In variation of the myelocytes, the eosinophilic count conformed generally with the neutrophilic change, but increased or appeared with each administration of the roentgen ray. Neutrophilic myelocytes showed a gradual steady fall under benzol with a corresponding increase in polymorphonuclear leukocytes relatively. On discontinuing benzol, a distinct and marked absolute increase occurred but was controlled with repeated doses of roentgen rays. The roentgen rays had less effect on reducing the myelocytes than the lymphocytes and leukocytes.

Bordet-Gengou Reaction in Aortic Lesions.—An attempt was made by Goynaroff to ascertain if in all cases of aortitis syphilis must necessarily be regarded as the cause even when no clinical sign of the disease existed, and if this be not the case to determine the factors which might explain the positive character of the reaction in a certain number of subjects with aortic lesions. Out of forty-six subjects with disease of the aorta, only three admitted syphilitic infection, all others—forty-three in number—denied it or at least did not suspect having it. Of forty-three patients, tweny-seven gave a positive Wassermann. Twenty of these are clinically suspicious since they presented nervous disturbances, polymortality of their children, absence of offspring, miscarriages, etc. Eliminating these twenty cases, seven others nevertheless remain who gave no suspicion of syphilis, yet in spite of this fact fixation of the complement in the blood was positive. Goynaroff in convinced that not a few aortic lesions, regarded until now as specific simply because the fixation seroreaction is positive, are not in reality the result of syphilis. This applies especially to atheromatous lesions in elderly subjects even when the Wassermann is positive.

Diagnosis of Intrathoracic Neoplasms.—Thirty-three cases of primary malignant neoplasms of the bronchi, lungs and pleura were analyzed by Fishberg and Steinbach. There are two early symptoms which are hardly ever seen in early phthisis, namely, dyspnea, and pain in the chest. It is important to think of a pulmonary neoplasm when a patient in the cancer age, showing no symptoms of cardiac, renal, or arterial disease, begins to cough, and is short winded, or when one side of the chest is flat and offers the characteristic resistance to the pleximeter finger from the clavicle to the base. Likewise, absence of breath sounds over one entire side of the chest, excepting cornage, if not due to a pneumothorax, which is excluded by percussion, is almost invariably due to a tumor of the lung or pleura with an effusion. Withdrawing the fluid and immediately taking a roentgenogram will show a tumor which is otherwise obscured by the fluid.

New Tests for Alkaline Carbonates in Urine.—Mitchell claims that the presence of alkaline carbonates in the urine is inferred when a dark precipitate forms after addition of a few drops of a 1 per cent. solution of mercurous nitrate to a few cubic centimeters of the urine. The presence of ammonium carbonate in urine is shown when a red precipitate forms after addition of a few drops of urine to a few cubic centimeters of Nessler's solution. In the absence of ammonimum carbonate a positive reaction with mercurous nitrate points to the presence of sodium carbonate or bicarbonate, the latter being inferred when the patient presents the history of having taken "soda bicarb," or baking soda recently. Rarely a positive reaction with mercurous nitrate is due to soluble sulphides, in which case acetic acid (50 per cent.) does not change the color of the precipitate. Drugs taken by the patient, especially iodids and intravenous medicaments, may lead to erroneous conclusions when the mercurous nitrate test is employed; hence, knowledge of what the patient is taking should always be had by the physician employing the test.

Tennessee State Medical Association Journal, Nashville

February, 1921, **13**, No. 10

Sketch of Life of Dr. J. Marion Sims. J. M. King, Nashville.—p. 361.
Needs of Medical Profession in Tennessee. L. L. Sheddan, Knoxville.—p. 368.
Use of Malt Soup—Buttermilk Feeding in Athrepsia. R. H. Perry, Nashville.—p. 373.
Surgeon, Profession and Public. C. N. Cowden, Nashville.—p. 376.
Congenital Cataract. J. P. Crawford, Nashville.—p. 383.
New Clinical Classification of Neoplasms. W. C. MacCarty, Rochester, Minn.—p. 385.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Experimental Pathology, London

February, 1921, **2**, No. 1

*Measurement of Capillary Blood Pressure in Man. L. Hill and J. M. McQueen.—p. 1.
*Spontaneous and Artificial Pulmonary Lesions in Guinea-Pigs, Rabbits and Mice. H. B. Maitland, M. L. Cowan and H. K. Detweiler.—p. 8.
*Nature of Effect of Blood Pigment on Growth of B. Influenzae. P. Fildes.—p. 16.
*Hemagglutination and Its Medicolegal Bearing; Theory of Isoagglutinins. H. Schütze.—p. 26.
*Presence of Hemolytic Substances in Human Urine. E. Ponder.—p. 34.
*Sachs-Georgi Syphilis Reaction and Its Relation to Wassermann Reaction. T. Taniguchi.—p. 41.

Measurement of Capillary Blood Pressure.—That pressure which stops the flow through and expresses blood from the skin has been generally taken as signifying the capillary blood pressure. In truth it indicates the pressure in the small arteries which feed the compressed part after an allowance has been made for error arising from the pressure required to deform the convex horny layer of the skin. The method devised by Hill and McQueen measures this error and arrives at the true pressure in the small arteries. The relation of the swelling of the tissue cells to the capillary circulation in inflammation is discussed, also the relation of the pressure of the cerebrospinal fluid, aqueous humor and salivary secretion.

Spontaneous and Artificial Lesions.—A pulmonary lesion in guinea-pigs is described which was characterized by hemorrhage into the alveoli and sometimes into the bronchioles. There was no leukocytic reaction in the lung tissue, and no hemosiderin was present in the cells of the lung. This lesion is an agonal phenomenon. A second type of lesion has been noted which is essentially a slow proliferation of endothelial cells. It is a spontaneous animal disease whose origin is undetermined. The hemorrhagic and proliferative lesion frequently occurred in the same area, but neither was dependent on the other.

Nature of Effect of Blood Pigment on Growth of B. Influenzae.—Growth of *B. influenzae* has not been observed by Fildes to occur in the total absence of blood pigment. The quantity of blood pigment necessary is small, but larger than has been stated. Probably oxyhemoglobin and carboxyhemoglobin are incapable of allowing growth, the feeble multiplication in these pigments being due to a spontaneous change to methemoglobin. Hematoporphyrin also fails to permit growth, but hematin allows a copious growth. The feebleness of the growth on unchanged blood compared with that on changed blood is due to a deviation of the oxygen, activated by the iron of the pigment, from the bacillus through the oxygen affinity of the unchanged pigment.

Hemagglutination and Its Medicolegal Bearing.—The possibility of grouping dried human blood specimens by reconstructing the serum for agglutination and using the undissolved residue for absorption has been demonstrated, Schütze says. Forensically, the test would be of most importance when proving dissimilarity between two specimens alleged to be derived from the same source. To prove their similarity would probably only be to furnish circumstantial evidence of more or less value according to the group in question and the frequency of the occurrence of that group in the population concerned. The Landsteiner theory that two substances, "A" and "B," with their corresponding agglutinins, "a" and "b," are concerned in the isoagglutination of human bloods has been confirmed by absorption tests.

Presence of Hemolytic Substances in Human Urine.—Hemolytic activity was observed by Ponder as a regular ocurrence in the urines of insane persons, when tested for by a sensitive method. Such activity was also found to occur in the urines of healthy persons. The hemolytic substance appeared to be a stable chemical compound, capable of being extracted from the urine with various solvents. Its activity was inhibited by various substances, notably blood serum. There seems to be sufficient evidence to justify the suggestion that the hemolytic power of urine depends on its containing minute traces of bile acids or their salts, and that the occurrence of hemolytic activity in urine is physiologic.

Sachs-Georgi Syphilis Reaction and Its Relation to Wassermann Reaction.—Two hundred and ninety-six human serums were examined by Taniguchi by the "incubator method" for Sachs and Georgi's reaction and simultaneously for the Wassermann reaction. The hundred and seventy cases gave the same result with the two reactions, comprising 104 positives, 164 negatives and two suspicious. In general, differences have been observed only in the case of weak or doubtful reactions.

British Medical Journal, London

March 5, 1921, **1**, No. 3140

Influence of War on Modern Treatment of Fractures. H. Wade.—p. 327.
International Organization and Public Health. G. S. Buchanan.—p. 331.
*New Principle in Surgical Treatment of Congenital Cleft Palate, and Its Mechanical Counterpart. H. D. Gillies and W. K. Fry.—p. 335.
*Treatment of Sprue by Massive Doses of Sodium Bicarbonate. A. Castellani.—p. 338.
*Case of Angina Pectoris with Auricular Fibrillation. H. M. Sandison.—p. 339.
Aneurysm of External Carotid Artery Treated by Ligature of Common Carotid Artery and Internal Jugular Vein. W. A. Peverley and J. K. Haworth.—p. 339.

Treatment of Congenital Cleft Palate.—Gillies and Fry consider that closure by means of an efficient dental plate is by far the most simple and efficient mode of treatment of cleft palate; it gives least trouble and provides all that is required of a hard palate as regards feeding, speaking and breathing, and is applicable in some form or other from earliest infancy. Its very nature prevents any interference with the maxillary growth and eruption of teeth, and saves part of an operation from which the mortality is not inconsiderable. Having decided to make good the hard palate defect by a removable prosthesis, it is suggested that the two halves of the soft palate be united in as far back a position as is possible. This maneuver leaves a larger hard palate defect than prior to operation, and to prevent the raw anterior edge of the newly made soft palate scarring over and so contracting forward, two methods have been practiced—one to take a small flap of mucoperiosteum from the hard palate, leaving it attached to the soft, and wrap it over the raw area; the other, to overlay a skin graft (Thiersch) held in position by an apparatus. The latter is more applicable to those cases in which the musculo-mucous-membranous remains of a previously and poorly operated palate have deliberately been detached from a surgically closed hard palate, and made to lie in juxtaposition to the pharyngeal wall. The gap between the hard and soft palate is more efficiently filled by the dental prosthetist than is the usual posterior defect of the soft palate by means of an artificial velum; and the muscular and movable portion of the soft palate works with much greater efficiency as regards speech and deglutition in its new position. The congenital type operation results in a muscular, movable soft palate sufficiently near the pharyngeal wall to control air and food, having its palatal aponeurosis represented by the posterior border of the dental appliance, and in a hard palate absolutely closed by the rest of the dental plate.

Sodium Bicarbonate in Sprue.—The routine method of treatment used by Castellani in sprue is generally the following: The patient is kept at complete rest in bed and is placed at first on a strict milk diet. The mouth is kept scrupulously clean by using a diluted alum-phenol mouth wash. And when painful patches on the tongue are present, a cocain-phenol mouth wash is useful. In addition to these measures, the patient is placed on an intensive alkaline treatment, which is carried out (*a*) by giving very large doses of sodium bicarbonate by the mouth, and (*b*) by intravenous injections of a 2 or 4 per cent. sodium bicarbonate solution. In a number of cases the administration of large doses of sodium bicarbonate by the mouth is sufficient. It is given in dram doses, 1 dram, three times daily, for the first three days; 2 drams, three times daily, for eight or ten days, and afterward 3 drams, or more, three times daily, for several weeks. No untoward effects are noticed, but not rarely the patient feels and looks somewhat drowsy for a few days. If the drowsiness becomes marked, the dose should be decreased. When the diarrhea is very severe, from 5 to 10 grains phenyl salicylate

may be added to the sodium bicarbonate, but powerful astringents should always be avoided. The addition of a little phenyl salicylate to the powders is also useful when the urine becomes too strongly alkaline. In those rare cases in which there is constipation, magnesium carbonate, from 10 to 20 grains, may be substituted for phenyl salicylate. Castellani has used intravenous injections of sodium bicarbonate in six cases, always in combination with the internal administration of large doses of bicarbonate. From 10 to 20 ounces of a 2 or 4 per cent. solution is given slowly every day, or every other day, until twelve injections have been given; then the patient has a rest, but the intensive alkaline treatment by the mouth is continued. After an interval of one or two weeks another course of injection is given, and a third course may be necessary after a further interval. Castellani's experience has been that the sprue patients receiving this sodium bicarbonate treatment, in addition to the usual dietetic measures, improve more rapidly than patients having only the dietetic treatment.

Angina Pectoris and Auricular Fibrillation.—The diagnosis of angina pectoris in Sandison's case was based on the breathlessness on exertion, palpitation, frontal and occipital headaches, and several paroxysmal attacks of pain of varying severity. This pain was situated in the region of the heart; it was sudden in onset, and associated with a feeling of tightness in the chest, mental perturbation, intense anxiety, and a sense of numbness in the left arm. The pulse was completely irregular, with a ventricular rate of 124, many of the ventricular contractions not being registered at the wrist. The systolic blood pressure was raised, most of the beats registering 210 mm.; the wall of the brachial artery was thickened. The left border of the heart was one fingerbreadth outside the nipple line, the right border two fingerbreadths to the right of the sternum, and the note in the neighborhood of the junction of the manubrium sterni and right intercostal cartilages and spaces was impaired. There was an apical systolic murmur, propagated to the axilla, and the second sound in the aortic area was rather accentuated. There was an absence of albumin in the urine. Tincture of digitalis was administered during the first week in 15 minim doses, thrice daily. At the end of the week, as there was no appreciable improvement, the dose was increased to 18 and ultimately to 20 minims. During the second week there was obvious improvement, the ventricular rate gradually falling to 84. As there was now some complaint of general depression, headache and giddines, the digitalis was stopped for forty-eight hours, and then recommenced in 15 minim doses. It was found possible to continue with this dose, and the ventricular rate ultimately diminished to 74, and the pulse became much less irregular. The systolic blood pressure came down to 180 mm. Coincident with the remarkable slowing and steadying of the heart's action there was a most gratifying improvement in the patient's general condition.

March 12, 1921, 1, No. 3141

Indications for Cholecystectomy. K. W. Monsarrat.—p. 371.
*Asthma and Anaphylaxis. F. Coke.—p. 372.
Chronic Retention of Urine Arising from Prostatic Disorder: Its Cause, and Treatment by Practitioner without Operation. H. T. Herring.—p. 376.
*Renal Decapsulation for Chronic Parenchymatous Nephritis. F. Kidd.—p. 378.
Reconstructive Aneurysmorrhaphy in Third Part of Axillary Artery. C. J. Marshall.—p. 379.
*Fracture of Femur: A Simple Method of Extension. B. F. Pendred.—p. 380.
*Unusual Case of Myelocele. A. J. Cokkinis.—p. 380.
Action of Intrinsic Muscles of Foot and Their Treatment by Electricity. G. M. Levick.—p. 381.
*Labor in Case of Lethargic Encephalitis. W. F. T. Haultain and G. O. Thornton.—p. 382.

Asthma and Anaphylaxis.—Coke is of the opinion that by the skin reactions half the cases of asthma can be proved to be due to some foreign protein. If these causes can then be removed the patients are relieved of their asthma at once. Much can be done to relieve or even cure other cases which do not give positive skin reactions, by the usage of various proteins, such as antigens, to effect desensitization. Asthma, hay-fever, urticaria, eczema, migraine, epilepsy, and paroxysmal hemoglobinuria, have many common traits, Coke says, and will probably all be proved eventually to be symptoms of anaphylaxis and not separate diseases at all.

Decapsulation of Kidney in Nephritis.—Kidd is convinced that some cases of chronic nephritis are greatly benefited and may even be cured by stripping the capsules of both kidneys.

Extension for Fracture of Femur.—The method advocated by Pendred is for fractures above the middle, where the upper fragment is flexed forward. The patient is placed in bed on his back, the head and shoulders being supported by two or three pillows. The knee of the injured limb is raised until the femur is at the required angle, which is generally from 30 to 40 degrees to the horizon. It is maintained in this position with a knee pillow, or better still by a pyramid of sand bags. A ring-shaped air cushion is slipped over the foot, drawn up to the knee and inflated as fully as possible, the foot being allowed to fall back on the bed. A strong bandage is tied round the air cushion exactly opposite the knee and the other end carried to a pole or mast fitted to the foot of the bed; strong traction is made in the line of the upper fragment, lower fragment, diameter of cushion, bandage and point on mast, until the ring becomes definitely oval, when the bandage is fixed to the mast. The extension is procured by a pneumatic pad in the flexure of the knee, and the strain is transmitted to the femur through the head of the tibia and the ligaments of the knee joint.

Case of Myelocele Not Immediately Fatal.—Cokkinis reports a case of myelocele in which life was prolonged for twenty-three days. There was a deficiency in the neural arches and failure of closure of the neural groove, opposite the lower three lumbar and upper two sacral bodies. The open spinal cord was seen in the middle line at the upper part of the defect, while the nerves of the cauda equina could be distinguished in the lower part. The myelocele narrowed and deepened as it was traced upward into the funnel-shaped termination of the central canal. Cerebrospinal fluid was constantly dripping out of the apical opening. During the third week, meningitis set in, and the baby died in a storm of convulsions.

Labor in Case of Epidemic Encephalitis.—In the case recorded by Haultain and Thornton pregnancy seemed to be unaffected by the disease, but the lethargy was exaggerated for the first few days after labor, and especially for the first twenty-four hours. The patient slept through the first stage of labor without giving any sign that labor was in progress, and the end of the second stage was delayed on account of defective expulsive efforts. The third stage was normal in every respect and no excess of blood was lost. The puerperium was uneventful and the uterus underwent normal involution.

Dublin Journal of Medical Science

February, 1921, 4, No. 12

Medical Reform in Ireland. R. J. Rowlette.—p. 49.
Existing Hindrances to Public Health Work in Ireland. J. W. Moore.—p. 56.
Case of Bubonic Plague in Dublin. A. Ball and H. C. Drury.—p. 63.
Sixty Cases of Sudden or Violent Death: An Analysis. M. F. Moloney.—p. 68.
Case of Carcinoma of Antrum of Highmore. F. T. Morrin.—p. 79.

Lancet London

March 5, 1921, 1, No. 5088

Cause and Prevention of Myopia. F. W. Edrige-Green.—p. 469.
*Sequels of Congenital Syphilis. H. Rolleston.—p. 471.
*Nutrition in Vienna. M. R. Gribbon and M. I. H. Ferguson.—p. 474.
*Bacteriologic Investigation of Case of Plague. V. M. Synge and J. W. Bigger.—p. 477.
*Influence of Aeration on Stability of Antiscorbutic Factor. S. S. Zilva.—p. 478.
Mental Tests. W. A. Potts.—p. 478.
*Case of Lethargic Encephalitis Complicating Pregnancy. J. B. Banister and G. Sophianopoulos.—p. 481.
Case of Acute Diverticulitis. W. F. A. Clowes.—p. 482.
Case of Schlatter's Disease. I. Eban.—p. 482.

Sequels of Congenital Syphilis.—Rolleston discusses the limits of the Wassermann reaction as a means of diagnosis; he says that it appears that at the present time it is impossible to accept as absolute the proposition that in the presence of syphilitic stigmata a negative blood Wassermann eliminates the possibility of exiting syphilitic infection. In dystrophies which may be due, in a secondary and delayed manner, to the effects of syphilis, but may equally be a

legacy from the influence of other infections, on the pituitary, thyroid, testes, or other endocrine glands, the presence of a positive Wassermann reaction in the blood would be a very definite indication for antisyphilitic treatment, though it should not put into the background the obvious need for pituitary, thyroid, or some other or combined form of endocrine medication in addition. And in the absence of a positive blood Wassermann reaction the presence of stigmata of congenital syphilis should point to the advisability of antisyphilitic treatment, as was the custom in the pre-Wassermann days. The influence of syphilis in leading to lesions of the endocrine glands, and so indirectly to syndromes which are necessarily specific is also discussed; likewise, the influence of congenital syphilis in relation to various diseases which are not generally regarded as due to syphilis, and are not obviously due to lesions of the endocrine glands, such as chronic interstitial nephritis in early life; multilobular or portal cirrhosis in young children; chronic peritonitis, anemia, mitral stenosis and rickets. Congenital malformations may occur in the subjects of congenital syphilis, and the question arises how far the intra-uterine activity of congenital syphilis is a cause of these defects.

Nutrition in Vienna.—A study was made by Gribbon and Ferguson of the food supply and state nutrition of the working classes in Vienna. The points dealt with in this report are: (1) the energy intake of the diet; (2) the height and weight of the children; (3) the income and expenditure upon food; (4) the composition of the diets, i. e., the actual foodstuffs used; (5) the nature and extent of the mission help; and (6) rickets—a comparison of the two sets of dietaries. These studies show how very inadequate is the diet of the working classes in Vienna at the present time. Were it not for the generosity and devotion of the Society of Friends and the American and Dutch missions, their condition would be one of actual starvation. It is hopeless to expect from a population on such diets the initiative and vigor by which alone the country can be saved from ruin. While there is an all-round shortage of food materials, meat, fats, sugar, and milk are almost unobtainable. Most of the budgets included a small amount of pork, horse meat, of sausage during the week of study, and only ten had fresh milk, though most procured condensed milk from the Friends' Relief Mission.

Isolated Case of Plague.—Synge and Bigger record the occurrence of plague in a patient who resided within about a quarter of a mile of the docks, but had no connection with shipping or sailors, is unusual. The locality in which she resided has been free from plague both before and after her infection. The organism found was a true *B. pestis*. The method of infection is unknown. The fact that the patient owned a cat which alternately went on hunting expeditions and slept on her bed, may possibly be a link in the chain of infection. Nearly five months have now elapsed since the occurrence of this case, and no further cases have been recorded.

Influence of Aeration on Stability of Antiscorbutic Factor.—Zilva describes the results obtained from some experiments instituted with the object of studying the influence of air on the antiscorbutic factor at ordinary temperature as well as at 100 C. The inquiry was pursued as an outcome from observations made that ozone inactivated this and the fat-soluble factors at ordinary temperature. The experiments revealed that bubbling air at ordinary temperature through an antiscorbutic solution inactivated it. It was found, on the other hand, that on boiling an active solution for two hours in an atmosphere of carbon dioxid no marked diminution in the activity could be recorded, while on boiling a similar solution for one hour during which time air was bubbled through almost the entire activity was lost.

Epidemic Encephalitis Complicating Pregnancy. — The patient whose case is reported by Banister and Sophianopoulos was a primigravida, aged 31, in the thirty-sixth week of pregnancy. The induction of labor was decided on in view of the following facts: (*a*) The patient's condition was becoming continually worse; (*b*) the baby was alive; (*c*) it was hoped that the removal of the fetus might influence the patient's metabolism for the better. The very definite improvement for the first thirty-six hours after delivery gave rise to great hopes of recovery, but the experience of this case leaves the question of interference with the pregnancy sub judice. The patient died three weeks from the onset of the disease.

March 12, 1921, **1**, No. 5089

Neurologic Aspects of Shock. F. Mott.—p. 519.
*Intravenous Injection of Antimony Tartrate. J. B. Christopherson.—p. 522.
Outpatient Treatment of Bilharziasis, with an Analysis of 1,000 Cases. H. B. Day.—p. 525.
Mosquito Nets: Their Use in Past. P. Hehir.—p. 529.
*Tree-breeding Anophelines. B. Blacklock.—p. 530.
Study of Sanatorium Results. E. Ward.—p. 531.
Case of Idiopathic Dilatation of Bladder and Ureters. S. R. Tattersall.—p. 534.
Cigarette-holder in Larynx. N. H. Bolton.—p. 535.

Intravenous Injection of Antimony Tartrate.—Christopherson states that experience seems to show that a few grains of antimony tartrate (from 5 to 8 grains) by intravenous injections may be sufficient to cure leishmaniasis of the skin; larger doses (from 20 to 30 grains) are necessary, as a rule, to bring about a cure in bilharziasis, and still larger doses (60 grains, perhaps, and more) are necessary for leishmaniasis or kala-azar, and possibly still more (probably in repeated courses) for the cure of trypanosomiasis. Antimony tartrate (potassium or sodium), when given intravenously in appropriate dilution, and administered with care, may be given in larger total doses than is generally supposed. The cure of parasitic diseases, such as bilharzia, kala-azar, trypanosomiasis, filariasis, dracunculus medinensis, by a drug given intravenously (the drug itself if it acts directly, or a derivative if it acts indirectly) depends on: (1) the permeability of the enclosing membrane (or skin) of the parasite; (2) the penetrating power of the drug which in turn depends on its physical condition or chemical structure; (3) the toxicity of the drug to the parasite.

Tree Breeding Anophelines.—Blacklock draws attention to the necessity of taking tree breeders into consideration, and to urge the view that even with present limited knowledge of their powers of transmission they constitute a factor which must not be ignored, whether in making anopheline surveys or in dealing with anophelines from the sanitarian's standpoint.

Medical Journal of Australia, Sidney

Jan. 29, 1921, **1**, No. 5

Treatment of Egyptian Bilharziasis by Tartar Emetic. W. Summons and H. Irving.—p. 83.
Radiologic Note. K. S. Cross.—p. 85.
Cystoscopic Appearances in Bilharziosis. C. G. Shaw.—p. 85.

Feb. 5, 1921, **1**, No. 6

Surgical Problems of Stomach and Duodenum. H. B. Devine.—p. 103.
Gallstones. F. H. Langlands.—p. 110.

Siamese Red Cross Medical Journal, Bangkok

August, 1920, **3**, No. 2

*Treatment of Eczema by Radium. P. Sakdabolraksh.

Radium Therapy of Eczema.—The type of eczema most commonly seen in Chulalongkorn Hospital is the scaly eczema and next to it is the vesicular type. The latter sometimes yields to calamine lotion. The scaly or chronic form is the worst type and hardly yields to ordinary treatment except by radium rays. The preparation used is a crystallized radium bromid, weighing 18.95 mg. and is contained in a closed glass tube, which is again contained in a sealed silver tube. When it is used, this silver tube is placed in an aluminium roller with a handle, the attendant holds the handle and passes the roller over the lesion. Of twenty-three patients, ten were cured, the remainder were relieved of the itching and failed to return for further treatment.

South African Medical Record, Cape Town

Feb. 12, 1921, **19**, No. 3

Epithelioma of Lip and Its Treatment by Roentgen Rays. S. P. Impey.—p. 41.
Case Illustrating Modern Methods of Treatment in Fractures of Femur. H. Griffiths.—p. 44.
Remarkable Shrapnel Wound. W. H. H. Croudace.—p. 47.
Salvarsan Treatment of Human Anthrax. H. B. Van der Merwe and A. Pijper.—p. 47.
Carl Spengler's Work on Syphilis Micro-organisms. J. B. Anderson.—p. 48.

Annales de Médecine, Paris

December, 1920, **8**, No. 6

Eosinophilia in Ankylostomiasis. Lemierre and Lantuéjoul.—p. 409.
*Thyrotuberculosis. W. Janowski (Warsaw).—p. 418.
*Primary Cancer of Lung. E. Cottin, A. Cramer and C. Saloz.—p. 435.
Friedländer Bacillus Septicemia. Lutembacher and Dehains.—p. 460.
*Cancer in Animals. G. Roussy and M. Wolf.—p. 462.

Pulmonary Tuberculosis Simulating Exophthalmic Goiter.—In 17 per cent. of 3,000 tuberculous patients, Janowski found symptoms suggesting exophthalmic goiter. In 10 per cent. the symptoms of hyperthyroidism had preceded all symptoms of the tuberculosis by a few months to two years. In another 10 per cent. the tuberculous lesion in the lung had long persisted in a latent phase until the onset of the excessive thyroid functioning, and this had whipped up the pulmonary process. Even the slightest infection with tuberculosis seems to be enough to sensitize the nervous system so that any physical or emotional stress, intercurrent infection, abortion, parturition or an operation may be followed by symptoms suggesting exophthalmic goiter. In every tuberculous suspect, the thyroid should be investigated, and the lungs in every case of hyperthyroidism. Women were affected about ten times more than men. Many of the patients in this category were being treated for hysteria, neurasthenia or heart disease, as some one symptom had predominated and misled the diagnosis. The variations in temperature, the sweats, had not been heeded, and the lungs had been examined only perfunctorily if at all. In 90 per cent. the pulmonary lesions were minimal, with every prospect of a cure under appropriate medical treatment, with rest and quiet. If the goiter is very large, from four to eight weekly exposures to the roentgen rays may prove useful.

Primary Cancer of the Lung.—The cancer escaped detection in 80 per cent. of the 29 cases described from the Geneva public hospital. In 19 of the 29 the temperature was above normal; in a few with a septicemic curve. In 6 there was a tuberculous process in the lung, but in only one case was the process in an active stage. None of the signs and symptoms are pathognomonic except possibly intense local pain. But in 2 cases there was no pain and in others it was more a dull ache, suggesting rheumatism. Dyspnea was the most constant symptom; a cough was an early but not a constant symptom; it was never spasmodic. There was no expectoration in about 33 per cent. and in the cases with expectoration it proved the principal factor in misleading the diagnosis, especially when the sputum was blood streaked. The classic currant-jelly sputum was found in only 2 cases. Cytologic study of the sputum gave negative findings in 8 of 9 cases, even when the diagnosis of malignant disease was beyond question at the time.

Cancer in Animals.—Roussy and Wolf survey what has been learned in this field to date, in various countries and in a long list of species. Cancerous tumors have been found even in oysters, and in the larvae of the fly, drosophila. In animals, the skin and the urogenital organs are almost invariably the seat of the cancers, although the nature of the food swallowed would seem to invite lesions in the digestive tract. The research of Borrel, Fibiger and Stahr has apparently established that the development of cancer is favored by the action of parasites, nematodes of the liver in the rat, ankylostoma of the intestine in the horse. To date there is no evidence proving the contagiousness of cancer, but the facts observed with heredity of mouse cancers are suggestive.

Archives des Maladies de l'Appareil Digestif, Paris

1921, **11**, No. 1

*Gastroradiculitis and Enteroradiculitis. L. Bouchut and M. Lamy.—p. 1.
*Fat Acids and Ammonia in Stools. J. C. Roux and R. Goiffon.—p. 25.
Dextrocardia from Megacolon. A. F. Hurst.—p. 47.

Gastroradiculitis and Enteroradiculitis.—Bouchut and Lamy explain how any inflammation of the posterior roots is liable to irritate the sensory fibers in them which are connected with the digestive tract. The gastric crises of tabes are the extreme type of the sensory disturbances liable to result from this radiculitis. The radiculitis may be of various origins, but in the mild cases here described syphilis was undoubtedly the cause, and pronounced benefit followed specific treatment, amounting to a cure in the more recent cases. The pains may suggest ulcer, cancer, gallstones, neuroses, dysentery, colitis, etc., but they shift about, sometimes deep, then superficial, radiating in unusual directions, accompanied or alternating with pains in the limbs, and the usual measures for ulcer or hyperchlorhydria produce no effect. The clinical polymorphism is the main feature of this gastroradiculitis.

Fat Acids and Ammonia in Stools of Adults.—Roux and Goiffon have found that measurement of the volatile fat acids and the ammonia in the stools has thrown light on the bacterial flora and its mode of action, and is thus a convenient index of putrefactions and fermentations. The bacterial flora is one of the most sensitive reagents of the intestinal milieu. They have simplified the technic for determination of both the volatile fat acids and the ammonia, as they describe, and analyze the significance of the various findings, especially in colitis, as a guide to treatment.

Bulletin de l'Académie de Médecine, Paris

Feb 22, 1921, **85**, No. 8

*Sugar in Infant Feeding. P. Nobécourt.—p. 224.
*Insufficiency of Liver with Stomach Disease. P. Le Noir.—p. 227.
*Gangrene of Pharynx. E. de Massary and R. Boulin.—p. 230.
*Absorption of Hot Drinks. M. Boigey.—p. 233.
*Mycosis of Oysters. A. Pettit.—p. 235.
*Typhoid Fever. Courtois-Suffit and F. Bourgeois.—p. 239.
*Therapeutic Anaphylactic Shock. F. Arloing, A. Dufourt and L. Langeron.—p. 241.

Sugar in Infant Feeding.—Nobécourt recalls that infants get about 8 to 12 gm. of lactose per kilogram daily in breast milk, and he thinks that more use should be made of sugar in infant feeding. Saccharose in large doses is useful to give more nourishment when the food has to be restricted in fats and proteins, and also when forced feeding is needed. He adds 10 or 15 gm. of sugar to 100 gm. of the food being used, or if the child is breast fed, gives a few teaspoonfuls of highly sweetened boiled water. Habitual vomiting is often arrested by this highly sweetened food. The weight is often brought up to normal when the food is highly sweetened, and the sugar is borne without inconvenience in acute and subacute gastro-intestinal disease, with or without fever. It tides the child along to a more nourishing diet, and seems to promote the disappearance of the diarrhea. He has always found the sugar borne without disturbances in all pathologic conditions; a counter test is found in the evil effects that follow deprivation of sugar, as in feeding with albumin milk.

Insufficiency of the Liver with Stomach Disease.—Le Noir has recently been emphasizing the importance of latent insufficiency on the part of the liver in cases of gastric ulcer, etc., especially when an operation is contemplated. He urges the importance of testing the functional capacity of the liver as a routine measure before attempting an operation of the kind, urging study of the proteopexic function of the liver (described in these columns, Jan. 22, 1921, p. 275), alimentary glycosuria and similar tests. He refers in conclusion to recent research which has demonstrated transient damage of the liver under arsphenamin treatment. This might render it wiser to defer an operation on a syphilitic already under the influence of arsphenamin.

Gangrene of Pharynx.—The young man developed an ulcerous sore throat with the spindle-shaped bacilli, with rapid local gangrene and profuse hemorrhages. Under intensive serotherapy the gangrene subsided, but secondary extensive foci developed elsewhere, probably from inoculation. The serotherapy did not prevent the complications but there is no doubt the man would have succumbed without it. The antigangrene serum was a mixture of three antiserums against the more common gangrene-inducing bacteria. The first symptoms in the case had been pain in the joints and legs, and the case ran a two months course before final healing.

Absorption of Hot Drinks.—Boigey gave 600 gm. of cold water, sweetened 1:20 and tinted with 0.1 gm. of methylene blue, to four young men who had been marching 13 km. without drinking. The urine looked green in half an hour, blue at the end of an hour and a quarter, and deep blue at

the end of the second hour. Ten days later the same test was repeated with the same subjects only the water given to drink was hot. By the fourteenth minute the urine began to look green, and in three quarters of an hour to an hour it was intensely blue. By the end of two and a half hours the urine was of normal aspect again. This shows that the absorption and elimination of hot fluids is more rapid than of cold. Hot drinks thus favor elimination of fatigue products better than cold. Langlois confirmed these statements in respect to the more rapid diaphoresis with hot drinks, and urged that in treatment of heat stroke, hot drinks would be preferable to cold. The absorption of 250 gm. of water at 10 C. draws from the organism 29 times 250 = 7,250 microcalories. Ingestion of the same amount of hot water, which is rapidly eliminated in the form of sweat and evaporated, exerts ten times as much cooling power, thus lowering the temperature by a whole degree Centigrade.

Mycosis of Oysters.—Pettit relates that there has been an epizootic disease in the oyster beds of France which has killed off in some places fully 50 per cent. of the oysters, and the same has been reported from Holland, England and Italy. He has been making an official investigation, and found a fungus in the oysters. It seems to be a nocardia. He adds that the ingestion of the diseased oysters does not seem to be harmful for man; for more than six months, oysters with this epizootic have been eaten, but no injurious consequences have been reported.

Typhoid Fever.—In the 118 cases of typhoid described at Paris in a recent nearly two year period, in thirty-five cases the infection was traced to oysters; 17 per cent. in this group died, and 71 per cent. developed complications. The corresponding figures in eighty-one cases in which the typhoid was of other origin, were only 1.2 per cent. and 9.8 per cent.

Therapeutic Anaphylactic Shock. — The experimental research reported confirms the clinical observation that it may be possible to cure certain infections by inducing an anaphylactic shock. The research was done on guinea-pigs inoculated with pyocyaneus septicemia. Even a slight shock was enough to arrest the infectious process. The clinical cure was accompanied by the destruction of the germs in the blood and by the acquirement of immunity.

Bulletin Médical, Paris

Feb. 12, 1921, **35**, No. 7

*Separation of Pubic Bones in Riders.—L. Bérard.—p. 121.
Training of Visiting Nurses for the Tuberculous. XIX. G. Kuss.—p. 123.
*Practical Urology. E. Le Fur.—p. 125.

Separation of Pubic Bones in Riders.—Bérard describes the case of a man of 63 with sudden disjunction of the symphysis from a severe jolt on horseback. As there were no signs of intraperitoneal effusion or laceration of the bladder or urethra, Bérard merely immobilized in a Bonnet splint, although roentgenoscopy showed that the left pubic bone had been somewhat displaced downward and forward. This corresponded to a subluxation of the left sacro-iliac articulation, but healing was complete with satisfactory functional results in about fifteen weeks, no disturbance in gait even in climbing stairs. The man experienced merely a little oppression in the region of the pubic symphysis and the articulation, without true pain, although palpation revealed disjunction of the symphysis with gap wide enough for two fingers. Bérard knows of about thirty-five cases on record in France, but the list includes only six in which the pommel of the saddle was responsible for the injury.

Practical Urology.—Le Fur compares the different methods of exploring renal functioning, saying in conclusion that the portion of the kidney not affected by tuberculosis always functions well. Hence nephrectomy need not be decided on in haste, as uremia is scarcely ever to be feared in tuberculosis of the urinary apparatus.

Bulletins de la Société Médicale des Hôpitaux, Paris

Feb. 4, 1921, **45**, No. 4

Multiple Hydatid Cysts of Liver. Coyon and J. de Massary.—p. 89.
*The Sphygmometrograph. L.-A. Amblard.—p. 94.
Case of Bubonic Plague at Paris. P. Teissier.—p. 98.
*Uremic Pericarditis. A. Chauffard and J. Huber.—p. 101.
Vaccine Therapy of Asthma. J. Minet.—p. 106.
Vaccine Therapy in Typhoid. Le Blaye.—p. 113.
Serotherapy in Typhoid. Le Blaye.—p. 115.
*Edema in a Syphilitic. F. Trémolières and E. Schulmann.—p. 117.
*Uremia and Digestive Hemolysis. P. Le Noir, C. Richet, Jr., and A. Jacquelin.—p. 121.

The Sphygmometrograph.—Amblard gives an illustrated description of an apparatus designed to record the maximal and minimal arterial pressures.

Uremic Pericarditis.—The young woman developed pericarditis with dorsal friction sound in the course of chronic nephritis. The pericarditis subsided completely but the woman succumbed nearly three months later to the progress of the uremia. Chauffard and Huber know of only eleven cases on record in France of dorsal pericardial friction sounds such as were found in this case.

Edema in a Syphilitic.—The edema was evidently of nervous origin and was restricted to one side in the young woman with syphilis acquired three years before and inadequately treated. The onset was with diffuse pains in the limbs and generalized edema, both predominant on the left side. The location of the violent neuralgia revealed the radicular origin. After withdrawal of 50 c.c. of spinal fluid, both pains and edema were attenuated, and they disappeared completely in thirty-six hours.

Uremia and Digestive Hemolysis with Gastric Ulcer.—Insufficiency of the liver and kidney may develop silently in the course of gastric ulcer, and only biologic signs will reveal it. In 38 ulcer cases uremia was pronounced in 15, and attacks of digestive hemoclasis were constant in 75 per cent. of 20 ulcer cases. In 5 of these patients the hemolysis was intense, the drop in the leukocytes amounting to over 3,000 after taking 200 gm. of milk, fasting. This confirms the authors' previous statements in regard to the frequency of derangement of the liver and kidney in cases of gastric ulcer, the hemoclasis and the uremia disclosing otherwise possibly latent derangement.

Feb. 11, 1921, **45**, No. 5

*Epidemic Encephalitis. F. Rathery and F. Bordet.—p. 128.
Mesocephalic Syphilis Simulating Epidemic Encephalitis. C. Achard and J. Rouillard.—p. 130.
Roentgenoscopy of Pneumonia. G. Paisseau and I. Solomon.—p. 133.
*Plague Bacilli in Blood. P. Teissier and others.—p. 136.
*Plague at Paris. P. Teissier, L. Tanon and P. Gastinel.—p. 139.
The Glucose, Albumin and Urea Content of Cerebrospinal Fluid in General Paresis. M. Briand and A. Rouquier.—p. 145.
*Spirocheturia in Secondary Syphilis. Fiessinger and Huber.—p. 146.
Pneumoperitoneum and Pneumocolon. L. Ribadeau-Dumas.—p. 150.
*Amebic Abscess. L. Rénon and P. Blamoutier.—p. 152.
*Tuberculin Reaction and Ovarian Function. E. Coulaud.—p. 155.
Primary Pneumococcus Septicemia. Oettinger and Deguignand.—p. 159.
Angina Pectoris as Sign of Tuberculous Mediastinitis. L. Ribadeau-Dumas and Vigneron.—p. 162.
*Erysipelas in the Newly Born. L. Boidin and Tierny.—p. 165.
*Coagulation in Erythremia. C. Laubry and E. Doumer.—p. 170.

Epidemic Encephalitis.—In the case described, after a week of malaise there was almost continuous hiccup for five days, and then three weeks of apparent health. Then a severe myoclonic form of epidemic encephalitis developed. As this subsided, there was a period of somnolence, but recovery was complete about two months from the onset of the hiccup. No cases of hiccup or encephalitis were known in the environment.

Plague Bacilli in the Blood.—In 3 of 12 certain cases of bubonic plague at Paris, the blood seemed to be sterile. In the 9 other cases plague bacilli were cultivated from the blood during the first days of the infection, in the mildest cases as well as in fatal plague septicemia.

Plague at Paris.—In the 66 cases of supposed plague at the Claude-Bernard Hospital, the diagnosis was disproved in 23. No primary pulmonary case was encountered. The lymphatics around the bubo may feel large and hard, and a woody inflammatory reaction in the tissues around is characteristic and instructive. The connected glands may be massed and painful even when the bubo is insignificant. The bubo was in the inguinal region in 67 per cent.; in the axilla in 11 per cent. and once in the neck. In 29 cases the bubo retrogressed spon-

taneously, and in 3 of the 14 suppurating cases, it opened spontaneously. An early incision or other local measures did not seem to modify the course. Moderate polynucleosis seemed to be constant; eosinophilia ranged from 2 to 8 per cent. Antiserum given early and perseveringly, in large doses, is very effectual. There were no deaths except 3 patients who died in a few hours after reaching the hospital. In the graver cases sometimes 100 c.c. of the antiserum was given by the vein twice a day. Serum reactions were common, and they actually seemed to exert a certain favorable influence on the bubo.

Spirocheturia in Syphilis.—Fiessinger and Huber never found spirocheturia in their twelve cases of syphilis in the secondary phase during the last three years. But recently they found the spirochetes in the urine of a young man with a roseolar syphilid, about a month after the primary lesion.

Amebic Abscess of Liver.—This is a new case in which clinical recovery was obtained under emetin alone, without puncture or other intervention.

Tuberculin Reaction During the Menses.—Coulaud presents evidence that the menstrual periods and the menopause represent periods of lessened resistance to tuberculosis, like childbirth. His data also show that these three, parturition, the menopause and the menses, are periods of extra activity on the part of the thyroid. The response to the skin tuberculin test is less pronounced during these periods of anergy. This hyperthyroidism can be effectually combated by ovarian treatment, which seems to rest the thyroid. It may likewise exert a favorable influence on the tuberculosis. Jacquerod has reported its success in combating hemoptysis and menstrual fever in the tuberculous. Everything seems to show, Coulaud adds, that intensive functioning of the thyroid body is an important factor in the weakening of acquired immunity. And we know that the thyroid strives to function more to make up for any loss of ovarian functioning.

Erysipelas in the Newly Born.—Boidin and Tierny report seven recovering among twelve infants, all only a few days old, with erysipelas, given Delbet's bouillon-vaccine treatment. Only one recovered of twelve treated by the ordinary measures.

Coagulation in Erythremia.—Laubry and Doumer found the coagulating time considerably retarded in five cases of erythremia and also in two of congenital cyanosis. The overproduction of erythrocytes seems to be responsible for the delay in coagulation.

Paris Médical

Feb. 19, 1921, **11**, No. 8

The Lesions and Symptoms in Organic Psychiatry. Dupré.—p. 145.
*Gaps in the Skull. P. Mauclaire.—p. 153.
Autogenous Vaccine Therapy of Sycosis. Renaud-Badet.—p. 157.

Gaps in the Skull.—Mauclaire reviews the outcome to date in the cases of skull wounds treated by different surgeons by implantation of bone, cartilage or an endoprosthesis. If the skull alone was injured, almost any technic gave excellent results, but the injury of the skull was generally accompanied with injury of the meninges or brain below. Hence the neurologists soon quenched the enthusiasm of the surgeons. The best results with small defects were realized with a bone-periosteum graft taken from the vicinity or from the tibia. For a large defect, a broad pedunculated bone-diploë flap from the vicinity has proved most satisfactory. Cartilage grafts are resorbed so frequently that there is no implant left. An ivory or other endoprosthesis may render good service with a small gap. In two of Mauclaire's cases, a fenestrated ivory implant, 2 by 3 cm., has answered the purpose for three years to date. In a third case, the implant was cast off after six months; probably the edges were not embedded deep enough. Closing the gap in the skull after a wound has a favorable influence both subjectively and objectively.

Presse Médicale, Paris

Feb. 23, 1921, **29**, No. 16

*Uric Acid in the Urine. A. Chauffard, Brodin and Grigaut.—p. 153.
Cerium Salts in Treatment of Tuberculosis. Grenet and Drouin.—p. 153.
*Diseases Seen Through the Treatment. G. Leven.—p. 156.

Uric Acid in the Urine in Gout and Gravel.—The disturbance in metabolism is first manifested as hyperuricacidemia; then appears hypercholesterinemia, then the Ambard constant rises, and bilirubinemia follows. The uric acid content of the blood is always abnormally high in gout and gravel, but not in the urine. In thirty-six cases, in twenty-three it was within normal range, and in only three it surpassed 1 gm. It is thus impossible to estimate from the urine the concentration of uric acid in the blood. Each of the multiple forms of combined uric acid is eliminated independently of the others, and certain forms seem to escape completely the excreting action of the kidneys. The tabulated findings show the facility with which uric acid is retained in the organism, and how little the content in the urine is influenced by an increase in the blood.

Disease Seen Through Treatment.—Leven cites a number of instances to show the unintentional modification of the disease by our therapeutic measures. For instance, the old idea that typhoid begins with diarrhea was due to the fact that every indigestion used to be treated with a purge. As indigestion was the first manifestation of typhoid fever, the effect of the purge was regarded as forming part of the typhoid picture. The dilatation of the stomach, that used to form part of the typhoid picture, is no longer observed, as the patients are fed better from the start; the dilatation was the result of the underfeeding. The so-called anaphylaxis from eggs can often be warded off, he says, by eating the egg with a very small spoon. Persons unable to bear eggs can often eat them without the least disturbance if they eat them with a salt spoon. The small masses of the egg are thus better mixed with saliva, and are more readily attacked by the digestive juices. The symptoms of "the idiosyncrasy" were thus manufactured by the mode of eating. In experimental work, the distance of the fistula in the bowel from the pylorus may vary in the animals, and thus different workers may obtain entirely different results.

March 2, 1921, **29**, No. 18

Treatment of Hemorrhoids. R. Bensaude and H. Ernst.—p. 173.
*Temperature in Incubation of Typhoid. M. Roch and C. Saloz.—p. 175.
*Scarlet Fever and Angina. T. Mironesco.—p. 176.

The Temperature During Incubation of Typhoid Fever.—Roch and Saloz give a chart showing a peculiar change in the temperature which is characteristic of the prodrome of typhoid fever. In eleven cases of hospital contagion, six of the seven nurses who took their temperature regularly had showed this irregular curve, and it had warned of the impending typhoid fever. The incubation in these cases was from eight to twenty-two days before the actual typhoid curve began. The prodromal temperature was the same or higher in the morning than in the evening, with series of plateaux with an occasional abnormal small peak.

Scarlet Fever and Angina.—Mironesco reports experiences which show that during an epidemic of scarlet fever the disease in some cases may be limited to what seems to be an ordinary sore throat but these cases can infect others as well as the frank cases.

Progrès Médical, Paris

Jan. 22, 1921, **36**, No. 4

*Serologic Tests for Tuberculosis in the Elderly. G. Ichok.—p. 35.
Enophthalmos. M. Morax.—p. 36.
Anthropologic Problems of Heredity. Manouvrier.—p. 37.
*Rat-Bite Disease. Dalous and Stillmunkés.—p. 39.

Necessity for Serologic Tests for Tuberculosis in the Elderly.—Ichok found the tuberculin intradermal test negative in all of twelve inmates of two Paris hospitals for skin disease, known to be free from tuberculosis. The complement fixation test showed negative findings also in forty-eight elderly persons known to be free from tuberculosis. It was constantly positive in fifty-two with signs of tuberculosis except a few in very advanced stages. This specific response and the constancy of the complement fixation renders it a valuable aid in detecting otherwise unsuspected tuberculosis in the elderly, which is liable to be dangerous for the environment.

Rat-Bite Disease.—Dalous and Stillmunkés report a mild case of rat-bite fever. The bite was deep in the thumb, pierc-

ing the nail. The period of incubation ended, the patient presented a slight increase in temperature for a few hours, but the next day all was normal again. In Piazzi's case there was a two years' course, with serious ocular phenomena, and Blake's compilation shows a mortality of 10 per cent. They mention the cases of three soldiers in the trenches who were bitten by rats but presented no signs of infection.

Schweizerische medizinische Wochenschrift, Basel

Feb. 3, 1921, **51**, No. 5

Life and Its Manifestations. G. F. Lipps.—p. 97.
Treatment of Defective Labor Contractions. H. Guggisberg.—p. 105.
The Cultivation and Treatment of Psychic Symptoms in the Insured. H. W. Maier.—p. 107.
Treatment of Epilepsy. E. Christin.—p. 111.

Policlinico, Rome

Feb. 14, 1921, **28**, No. 7

*Edema with Pleurisy. F. Lussana and P. Arrigoni.—p. 217.
*Etiology of Epidemic Encephalitis. P. Almasio.—p. 222.
*Mediogastric Stenosis of Mechanical Origin. L. Vaccari.—p. 225.

Edema with Pleurisy.—Lussana and Arrigoni have been unable to find in the literature any case like the one they present in which subcutaneous edema accompanied pleurisy with effusion. The pleurisy was of the serofibrinous type, the fluid of the effusion so thick that it was misleading in radioscopy. The edema extended from the scapula to the sacrum in the man of 46, with simple acute bilateral pleurisy, free from tuberculosis and nephritis and from constitutional taint or diathesis. The rapid and complete recovery confirmed the diagnosis of simple pleurisy without suppuration. The edema had the characteristics of edema from stasis.

Etiology of Epidemic Encephalitis.—Almasio gives charts which show the flaring up at Turin of influenza and the nearly parallel curve of epidemic encephalitis, a total of 138 cases of the latter and 1,058 of influenza during the spring of 1920. The majority affected were between 20 and 30, and in many cases the encephalitis developed in houses in which there had been cases of influenza. He thinks there is much to sustain the assumption that encephalitis is a closed form of influenza.

Stenosis from Umbilical Hernia.—Vaccari reports a case which he thinks is unique as the roentgen rays and laparotomy showed that the hour-glass constriction of the stomach was caused by hernia of Richet's fascia, the fold of extraperitoneal fascia, enveloping the obliterated umbilical vein. The woman was 50 at the time, and the pain after eating had been first noticed at 16. The stomach seemed otherwise practically normal.

Riforma Medica, Naples

Feb. 5, 1921, **37**, No. 6

*The Policlinic and Medical Training. G. Zagari.—p. 121.
*Ligation of the Jugular Vein in Otitis. G. Gradenigo.—p. 126.
Bacteriology of Influenza. Durand.—p. 126.
Pseudo-Tuberculous Broncho-Alveolitis. A. Furno.—p. 127.
Microbiologic Diagnosis of Amebic Dysentery. R. Leone.—p. 129.
*Gastric and Duodenal Ulcer. S. Menghetti.—p. 131.
Nosography of Human Trypanosomiasis. I. Jacono.—p. 132.

The Policlinic and Medical Training.—Zagari explains the origin of the word "policlinic" from *poli*, "city," as used in Italy, Germany and Switzerland for organized treatment of the sick both in the dyspensary and in the home, where medical students can inspect and follow the sickness. The first medical policlinic was organized at Jena, in 1796, and a number have long been working in Italy. He has charge of the one at Naples, and extols the great work it accomplishes for the sick poor and for the training of young physicians. It enables the study of the disposition and predisposition to disease, and of the pathologic conditions which the practitioner encounters most frequently in his daily work.

Ligation of Jugular Vein in Otitis.—Gradenigo reports a case of otitic pyemia in a young woman, following tonsillitis. Exploratory opening of the sinus showed it normal, and a ligature was thrown around the jugular vein. The infectious process was arrested at once, and no untoward by-effects were observed from the ligation. Repeated examinations with the ophthalmoscope failed to show any changes in the circulation in the eye as compared with the other eye.

Gastric and Duodenal Ulcer.—Menghetti analyzes the outcome in 700 operative cases of gastric and duodenal ulcer in Pauchet's service at Amiens and Paris. The mortality after simple thermocauterization was 1 per cent. and the same after gastro-enterostomy, but the mortality with gastrectomy was 5 per cent. The latter cures the patient definitely. Balfour has reported only 80 per cent. definitely cured by simple thermocauterization.

Archivos Españoles de Pediatría, Madrid

January, 1921, **5**, No. 1

*Bone Implants in Pott's Disease. A. López Durán.—p. 5.
Congenital Hemimetameric Verrucosis. V. Juaristi.—p. 22.
*Bismuth to Expel Oxyurids. Nieves Gonzáles Barrio.—p. 25.

Bone Implants in Pott's Disease.—López Durán has applied operative treatment in 24 cases of Pott's disease since early in 1917; 8 of the patients were children under 12, 7 were between 13 and 20, and 9 between 21 and 53. This experience has warned that children under 6 should always be treated by conservative measures, and usually all other children, unless the disease is progressing under careful conservative treatment. No operation should be attempted with an active abscess, even though there is no fistula; all his operations in such cases were comparative failures. On the whole, he prefers conservative measures for the well-to-do while the necessity for speedy recovery may turn the scale in favor of intervention in the working classes. Not until radiography confirms a good function of the bone should they be allowed to resume work; in the postoperative period orthopedic apparatus may be useful.

Bismuth to Expel Oxyurids.—In this report of a successfully treated case, the writer says, "Having just read in the *Journal of the American Medical Association*, Loeper's statement in regard to the efficacy of bismuth carbonate in expelling oxyurids, we applied this method in treatment of a rebellious case in a woman of 22. After a week of strict milk diet, 5 gm. of bismuth carbonate were taken morning and evening in a glass of water for three days. This was followed by a purge and local mercurial salve. The course was repeated a month later without dieting, but followed by a calomel purge, and the patient has been permanently relieved of the helminthiasis that had tormented her for months." Loeper casually discovered the efficacy of this drug in giving a contrast meal in two cases of gastric or duodenal ulcer.

Repertorio de Medicina y Cirugía, Bogotá

December, 1920, **12**, No. 3

Hookworm in Colombia. F. A. Miller.—p. 118.
*Tuberculous Meningitis Diagnosed by Eye Findings. A. Arboleda.—p. 126. Idem. V. Ribón.—p. 130.
Treatment of Leprosy. F. De P. Barrera.—p. 135.
*Alcoholism and Pellagra. G. Olózaga.—p. 143. Conc'n.

Tuberculous Meningitis Diagnosed by Eye Findings.—In the case described, the choked disk explained as probably due to tuberculous meningitis the intense headache and cerebellar disturbance in gait, which had developed eleven days after removal of a tuberculous kidney. This was confirmed by necropsy, as the woman of 34 died two days later.

Pellagra from Chronic Poisoning from Corn Liquor.—Olózaga here concludes his study of the disease known in Colombia as chichism, as it is the result of abuse of the cheap native beverage known as chicha, made from maize. The manufacture in certain regions includes putrid fermentation, and it is in these regions and among the poorer classes that the disease prevails. He presents evidence to demonstrate that this chichism is in reality pellagra, developing in consequence of the toxic action of the chicha, analogous to poisoning from ergot, the chick-pea and buckwheat. Under arsenic, nourishing food and abstention from the liquor, the curable cases throw off the disease in a few months, but the grave cases progress to a fatal termination. The city of Medellin has stamped out the disease by raising the license for the sale of chicha to a prohibitive figure. The chicha drinkers are found among the poorest paid laborers, and they have little money left for food after buying their liquor, which hastens the onset of the fatal chichism-pellagra. A few typical cases are described.

Revista Médica del Uruguay, Montevideo

January, 1921, **24**, No. 1

Rapid Treatment of Scabies. C. E. Paz Soldán.—p. 1.
Modern Treatment of Leprosy. P. E. Duprat.—p. 6.
*Epidemic Encephalitis. F. Abente Haedo.—p. 12.
Measles. V. Escardó Anaya.—p. 22.
*Vulvar Dystrophia. C. Stajano.—p. 27.

Epidemic Encephalitis.—Abente Haedo found from 65 to 75 per cent. polymorphonuclears in epidemic encephalitis. He has been impressed with the benefit from intravenous injection of a 4 per cent. solution of ammoniated copper (*sulfato de cobre amoniacal*), giving from 4 to 8 cg. daily by the vein.

Vulvar Dystrophia.—Stajano gives a number of illustrations of leukoplasia and vitiligo associated in vulvar dystrophia. The symmetry, the regularity of the shape, and the well-defined limits point to a nervous distribution, probably central. Nine cases are described. He explains these morbid changes as the result of traumatic injury irritating the nerve centers through the peripheral nerves, and thus entailing abnormal trophism, if the traumatizing cause persists, and if the nerve center is vulnerable. In one case the traumatism in the vulvar region had induced a hematoma which persisted for several months. This was followed by vulvar pruritus treated for a year by various measures without success, then extensive leukoplasia developed. The woman's mother had died of vulvar cancer. Stajano published in 1919 a study of vulvar precancer, and the present article confirms his conclusions in regard to the participation of the nervous system.

Semana Médica, Buenos Aires

Jan. 20, 1921, **28**, No. 3

*Parenteral Injections of Milk in Eye Disease. R. Argañaraz.—p. 57.
Color Reaction of Nicotin and Conin. J. A. Sánchez.—p. 61.
Training of Medicolegal Experts. G. Bermann.—p. 64.
Ferrán's Therapy of Tuberculosis. M. Rodriguez Castromán.—p. 68.
Fitness for Military Service. Clemente Trejo.—p. 76.
The Electron Theory. J. Regnault (France).—p. 81.
Musical Sense in Deaf-Mutes. V. Ribón (Bogota).—p. 83.

Parenteral Injections of Milk in Eye Disease.—Argañaraz describes two rebellious cases of a suppurating process in the eye in which, after failure of all other measures, the symptoms rapidly disappeared under parenteral injection of 10 c.c. of milk. In one case the serpiginous ulcer after injury of the eye with scissors, had progressed to grave panophthalmitis. The second patient had orbital cellulitis. Three injections on alternate days of 10 c.c. of fresh milk, boiled for four minutes and cooled, were made in the gluteal region, and by the third day thereafter recovery was practically complete. This measure has been recently applied with success by Noceti in cases of hypopyon, and others have reported success with gonococcus conjunctivitis. The various suppurative inflammations of the eye and chronic inflammatory processes in the endo-ocular membranes are likewise amenable to this milk treatment. The milk should not be heated to over 120 C. or it will lose its therapeutic properties. Schwarte has published twelve cases of ocular suppuration, including some of conjunctival diphtheria, in which the milk injections were followed by a prompt cure. He suggests that the milk may have some specific action against diphtheria, such as we find with horse serum. He noted high leukocytosis as a feature of the treatment—a stimulation of the normal defensive processes.

Siglo Médico, Madrid

Jan. 29, 1921, **68**, No. 3503

Large Sublingual Dermoid Cyst. J. Blanc Fortacin.—p. 93.
*Bone Implants in Potts' Disease. Idem.—p. 94.
The Mineral Waters of Spain. Rodriguez Pinilla.—p. 102.

Bone Implants in Pott's Disease.—Blanc Fortacin reports a successful case of bone implant in a man of 30 with angular gibbus in the lowest dorsal and upper lumbar vertebrae. A recent photograph shows the man stooping almost to touch his feet, his back nearly straight. In a second case, in a boy of 9, the operation performed the same day, the following morning the blood pressure suddenly dropped, with coma. The temperature ran up high and the boy died the same day. An operation for surgical tuberculosis in two other cases was followed in a few hours by this same clinical picture of hypotension, coma and death. Some latent focus, possibly at the base of the brain, may have been reactivated by the operation, and thus have been responsible for the fatal outcome.

Deutsches Archiv für klinische Medizin, Leipzig

Jan. 25, 1921, **135**, No. 1-2

*Residual Nitrogen in the Tissues. E. Becher.—p. 1.
*Edema. K. Beckmann.—p. 39.
*Measurement of the Venous Pressure. L. Fuchs.—p. 68.
*Bilirubin in the Blood. G. Lepehne.—p. 79
Intrathoracic Pressure as Modified by the Heart Action. F. Klewitz and F. Baumm.—p. 108.
*Epidemic Encephalitis. F. Palitzsch.—p. 115

Residual Nitrogen in the Tissues.—Becher's research has confirmed the importance of the tissues as the storage place for the incoagulable nitrogen with insufficiency of the kidneys. He gives the details of about twenty cases in which the clinical course is compared with the necropsy findings. The tissues in normal conditions seem to contain much more abiuret nitrogen than the blood. The content seems to stand in some relation to the protein, water, and fat content, edematous tissues having a low and the protein-rich tissues a higher residual nitrogen content. No exact parallelism between the development of symptoms of uremia and the amount of the retained residual nitrogen could be discovered, except that the most retention was found with true uremia. Even high retention of residual nitrogen in the body was not always accompanied with high blood pressure.

Edema.—Beckmann reports research which shows that the protein content of the edema fluid is an index of the nature of the edema. The lowest protein content is found with tubular disease of the kidneys and amyloid kidney, generally under 0.1 per cent.; the highest protein content in glomerular nephritis, with an average of more than 1 per cent. Between these extremes lie the cardiac and the mechanical forms of edema, the cardiac usually showing above 0.4 per cent. The sodium chlorid metabolism confirms the protein findings; with tubular kidney disease and amyloid kidney, the derangement of the tissues, and with glomerular nephritis the disturbance in the capillaries is the predominant factor. He found that the intermediary metabolism of water is dependent on the manner of the distribution of the elimination of water to the various emunctories. In three cases after drinking considerable water at one time there was much increased elimination, the water deposits of the body having evidently been thus mobilized. The sodium chlorid content of the edema fluid was higher than in the blood as a rule. There seemed to be deposits of water and of sodium chlorid in the tissues, in addition to those in the edema fluid, and these require certain influences before they can be mobilized.

Measurement of the Venous Pressure.—Fuchs has found the Moritz and von Tabora method reliable enough for practical purposes, but his experience with 120 persons tested shows that little if any information is to be derived from measurement of the venous pulse.

Bilirubin in the Blood Serum.—Lepehne discriminates between the stasis bilirubin, which accumulates in the blood from mechanical obstruction to the flow of bile, and the functional bilirubin, which passes into the blood serum when the bilirubin is produced in excess, or the liver cells are incapable of taking care of it. The stasis bilirubin gives a rapid and maximal diazo reaction, while with functional bilirubin the reaction is slow and sluggish. The stasis bilirubin oxidizes much more rapidly and it is adsorbed by the precipitate of serum protein more rapidly than the functional bilirubin. He reports his research in detail in 3 cases of jaundice; 13 of liver tumors; 4 of cholelithiasis; 4 of choloroform anesthesia; in 24 pregnant women, including 3 with eclampsia; in 11 cases of various infectious diseases; 2 of malaria; 4 of polycythemia; 7 of jaundice in the new-born; 14 cases of heart disease, and 10 of pernicious anemia. Among the conclusions from his research is that latent jaundice of the functional type is found in pernicious anemia, while with secondary anemia the findings are normal in this respect. He discusses the influence of splenectomy, of silver salts by the vein, and of the remissions in pernicious anemia on the behavior of the bilirubin in the blood. With jaundice in the new-born, the direct diazo reaction was exceptionally retarded. He says that this controverts all the theories which have been advanced to explain icterus neonatorum by stasis of bile. It is evident that it is more like hemolytic icterus. In both there is increased hemolysis in the spleen and liver, with possibly

functional disturbances in the liver cells. The acholuria in each is probably due to the binding of the functional bilirubin with certain substances for which the kidneys are not permeable.

Epidemic Encephalitis.—Palitzsch comments that his twenty-seven cases were all from different parts of the city. There were five deaths among them. Some of the patients had entirely recovered in one or two weeks, but others are not entirely well even yet, after many months.

Deutsche medizinische Wochenschrift, Berlin

Dec. 2, 1920, **46**, No. 49

Physiology of Smooth Muscle Fibers. A. Pick.—p. 1349.
*Muscular Tone and General Metabolism. E. Grafe.—p. 1349.
*Reduction of Suprarenals in Epilepsy. Brüning.—p. 1351. Idem; Effect on Blood Sugar. W. Rausch.—p. 1353.
*Experimental Ventricular Fibrillation. S. de Boer.—p. 1353.
Silver Arrphenamin in Syphilis. E. Zurhelle.—p. 1354.
Experiences with Lumbar Anesthesia. A. Mayer.—p. 1356. Conc'n.
Biology of Influenza Bacillus. H. Tocunaga.—p. 1357.
*Tests for Spasmophilia in Infants. J. Ibrahim.—p. 1359.
Value of Revaccination Against Smallpox. Paschen.—p. 1359.
Incarceration of Uninflamed Appendix. M. Rosenberg.—p. 1360.
The Actinimeter for Dosage in Phototherapy. R. Fürstenau.—p. 1362.
Poisonous Beans. Dienemann.—p. 1364.
Present Conception and Treatment of Eclampsia. R. Jolly.—p. 1364.
Iritis and Glaucoma. Abelsdorff.—p. 1365.

Muscular Tone and General Metabolism.—Grafe says there is considerable evidence for believing that not only muscular contraction but also relaxation of the muscle is produced by a special nervous impulse. If the second impulse, owing to certain pathologic processes in the nervous system, is not forthcoming, then the muscle remains taut, like a stretched rubber band. It is highly probable that the shortening is brought about by a process resulting from the formation of acid in the sarcoplasm. During this first stage there is probably no consumption of oxygen. The absorption of oxygen begins with the stage of relaxation. If relaxation does not take place, it becomes at once plain why an increased consumption of oxygen beyond the normal consumptions for the rest period does not occur. It remains to be seen whether this hypothesis can be supported by establishing the existence of nerves whose function it is to cause relaxation of muscles.

Reduction of the Suprarenal Glands in Treatment of Epilepsy.—An abstract of a similar article by Brüning will be found on p. 692, current volume.

Experimental Ventricular Fibrillation.—In No. 43, 1920, of the *Deutsche medizinische Wochenschrift* de Boer reported that he had produced ventricular fibrillation in the frog by an induction shock applied at the beginning of the irritable ventricular period. By his recent investigations he has shown that the same phenomenon can be produced by indirect stimulation. If, namely, the auricles are stimulated at the beginning of the irritable auricular period by an induction shock, an extrasystole of the auricles occurs, and the stimulation is transmitted to the ventricle. If this stimulation reaches the ventricle immediately after the refractory period has passed, it may cause ventricular fibrillation.

Overexcitability of Nerves as Indication of Spasmophilia in Infants.—Ibrahim thinks that testing the motor excitability by tapping the radial and the external popliteal nerves is a most useful method by which the general practitioner may discover spasmophilia in infants. He wonders that the method is not used more than it is; especially in view of the fact that we now have various ways of treating spasmophilia successfully. The tapping is done in the upper arm or just below the head of the fibula. The responses here may be characteristic even when the facialis phenomenon cannot be elicited.

Münchener medizinische Wochenschrift, Munich

Dec. 3, 1920, **67**, No. 49

*Imbibition Power and Osmosis. A. Ellinger.—p. 1399.
*Late Effects of Epidemic Encephalitis. F. Hofstadt.—p. 1400.
*Objective Test for Power of Audition. O. Löwenstein.—p. 1402.
Sensitiveness of Muscles in Incipient Scoliosis. K. Port.—p. 1403.
*Results of Roentgen Irradiation of Myomas. E. Zweifel.—p. 1405.
Vagotonia as a Constitutional Problem. F. Heisen.—p. 1406.
Stalagmometric Investigations on Urines. W. Schemensky.—p. 1407.
Artificial Breathing in Tetanus. G. Leenderts.—p. 1408.
*Suprapubic Prostatectomy. R. Oppenheimer.—p. 1409.
The Fürstenau Actinimeter in Phototherapy. F. M. Meyer.—p. 1410.
Muscle Shifting for Grave Talipes Equinus. Gretsel.—p. 1412.

Capacity for Imbibition of Protein Bodies in Blood Serum.—Ellinger discusses the importance of the *quellungsdruck*—the amount of water that can be absorbed—of the protein bodies in the blood serum as affecting the osmosis between blood and tissues and the excretion of urine. It is particularly important in the resorption of edema. He has found that diuretics reduce the imbibition capacity of the protein bodies in the serum, and that hypertonic grape sugar-Ringer solution by the vein aids in freeing the lungs in pulmonary edema.

Sequelae of Epidemic Encephalitis in Children.—Reviewed editorially, p. 934.

Determination of Objective Power of Audition and Differentiation of Organic from Psychogenic Deafness.—Löwenstein describes his method of differentiation of organic from simulated and hysteric impairment of audition. He bases his test on the finding that every mental process, whether thinking, feeling or an act of will, is accompanied by certain slight unconscious movements of the head and extremities. For the registration of these movements he has devised a special apparatus. He can also determine to what extent the power of audition is affected by hysteria.

Results of Roentgen Irradiation in Uterine Myomas and in Other Pathologic Conditions of the Uterus.—Zweifel states that in myoma patients in the University Woman's Hospital, Munich, they achieve by means of roentgen irradiation not only a stoppage of the hemorrhage but in most cases also a diminution in the size of the tumor, the same as by surgical treatment. Out of the forty-three patients who had received roentgen-ray treatment with the "Apex" apparatus, reduction of the myoma could be demonstrated on reexamination in thirty-seven cases, or 86 per cent. Of the fifty-three patients who had received roentgen-ray treatment with the "Symmetry" apparatus, thirty-three revealed on reexamination a reduction of the myoma; in a few cases the uterus had assumed its normal size.

Forty Suprapubic Prostatectomies Without a Death.—Oppenheimer states that since the suprapubic operation for prostatectomy was first introduced in Germany at the beginning of the century, the mortality has been gradually reduced. The average mortality in 807 cases since 1915 seems to have been about 12 per cent. He reports his forty operations without a fatality. Many of the patients were in a bad general condition and twenty-eight were over 60 years old, the oldest being 76. In twenty-eight cases, or 75 per cent., infection was present. There were other more or less serious complications.

Wiener klinische Wochenschrift, Vienna

Nov. 4, 1920, **33**, No. 45

Classification of Pulmonary Tuberculosis by Rate of Elimination of Bacilli. A. Winkler.—p. 981.
Intermittent Ileus, Caused by Murphy Button Thirteen Years After Operation. H. Neuberger.—p. 984.
*Eye Symptoms in Syphilis. L. Stross and A. Fuchs.—p. 986.

Eye Symptoms in Syphilis.—Stross and Fuchs examined for eye symptoms 84 cases of syphilis with positive spinal fluid. There were 49 recent cases—under two years—and 35 over two years. Of the 49 recent cases, 17 (6 men and 11 women) presented eye symptoms. Of the 34 old cases, 19 (12 men and 7 women) showed eye involvement, being a much larger percentage than in the recent cases. The ocular symptoms found are described in detail. It was noticeable that among the recent cases the women presented eye symptoms more frequently than the men. Impairment of the optic nerve was the most common finding. In 8 of the more recent cases there was a mild papillitis without impairment of vision, and 7 in this group were women. In the old cases, however, pupillary changes, and especially immobility of the pupil, were frequent.

Zeitschrift für Tuberkulose, Leipzig

November, 1920, **33**, No. 2

The Kidneys in the Tuberculous. O. Kieffer.—p. 65. Cont'n.
Increase in Tuberculosis Mortality in Women. G. Müller.—p. 77.
*Trauma and Tuberculosis. J. Orth.—p. 81.

Trauma and Tuberculosis.—This communication presents five reports made by Orth as expert in deciding claims for workmen's compensation when tuberculosis developed after a

trauma. His previous reports covered forty-five such cases. In the present group the connection was accepted in some and rejected in the others.

Zentralblatt für Chirurgie, Leipzig

Nov. 13, 1920, **47**, No. 46

Exstrophy of the Bladder; Modification of the Maydl Operation. O. Kleinschmidt.—p. 1386.
*Acceleration of Coagulation by Raying Liver. H. Tichy.—p. 1389.
*Operation for Hydrocele. A. Rumpel.—p. 1390.
*Costal Cartilage as Support for Eyeball. J. F. S. Esser.—p. 1392.
*Prevention of Amputation Neuroma. H. Gretsel.—p. 1395.

Acceleration of Blood Coagulation by Roentgen Irradiation of Liver.—Tichy verified the statements of Stephan and Jurasz in regard to the acceleration of blood coagulation by roentgen irradiation of the spleen. Using the Fonio method, he found the normal coagulation time for their laboratory to be from ten to fourteen minutes. Following irradiation of the spleen with the "Intensiv-Reform" apparatus and the Fürstenau-Coolidge tube, at 23 cm. focal distance from the skin, with 3 mm. aluminum filter, size of field 6 by 8 cm.; length of application eight minutes (about one third of an erythema dose), an acceleration of coagulation equal to 43.4 per cent. occurred, on the average. The acceleration became evident in from three to four hours and persisted usually for forty-eight hours, and in some cases for nearly three days. He also experimented with irradiation of the liver, the mode of application being the same as for the spleen, and the acceleration of the coagulation time was, on the average, 51.6 per cent. The acceleration was still manifest in almost all cases the third day after the irradiation. Tichy thinks that irradiation of the liver is theoretically just as well founded and for practical purposes possibly more effective than irradiation of the spleen.

Operation for Hydrocele.—Rumpel describes Kirschner's method of operation for hydrocele, introduced in 1918, and states, after having used it in several cases (four of which date back two years and have been recently reexamined and found in fine condition), that if the method is carefully carried out it gives excellent results and deserves wide application on account of its simplicity, shortness of the operation, and its reliability.

Free Transplant of Costal Cartilage as Support for the Eyeball.—Esser recommends the use of costal cartilage for nasoplasty, for restoration of portions of the zygomatic bone, reconstruction of a missing portion of the orbit and for auroplasty. Cartilage has the advantage, as it contains no blood vessels, of receiving its nutrition from the surrounding tissues by imbibition and osmosis. It is, therefore, especially adapted for free transplantation, and heals in place more readily and under more favorable conditions than a bone implant. Esser describes in detail three cases in which he used costal cartilage to restore the floor of the orbit.

To Ward Off Amputation-Neuromas.—Gretsel says that amputation-neuromas of the leg and thigh may be prevented (or cured) if the amputating surgeon, at the time of the operation, takes carefully into account, from what point on, the infected nerve ceases to be of value for the functioning of the stump, and at that point interrupts the continuity of the nerve by excising a portion. The saphenous nerve may be excised at any point in its course. The nerve gives off, at about the level of the gluteal fold and just above it, the motor branches for the flexors of the lower leg. From there down it is of indifferent value as regards the motion of the lower leg. The surgeon will, therefore, cause no motor injury to the stump of the lower leg or the thigh if he wards off or interrupts possible suppuration in the nerve sheath by excising a portion of the nerve, 1 cm. long, at the gluteal fold. This procedure protects against amputation-neuromas much more than if the nerves in the amputation stump were merely pulled out and excised as high up as possible. If an amputation-neuroma has already formed and is causing trouble, this procedure is likewise indicated, for, by interruption of the continuity, the peripheral portion of the nerve ceases to cause trouble and the weight-bearing power of the stump is restored. Gretsel has never observed any bad effects on the amputation stump resulting from this procedure.

Zentralblatt für Gynäkologie, Leipzig

Nov. 20, 1920, **44**, No. 47

*Blood Pressure in the Newborn. A. Seitz and F. Becker.—p. 1338.
*Diagnosis of Hydrops Universalis Congenitus. V. Kafka.—p. 1343.
On Sex Determination. W. Buchacker.—p. 1345.
Significance of Social Gynecology. M. Hirsch.—p. 1348.
Effect of Influenza on Pregnancy. T. Seitz.—p. 1351.

Blood Pressure in the Newborn.—Seitz and Becker, finding in the literature no systematic measurements of blood pressure in a large series of healthy new-born infants, have undertaken to supply the deficiency, and now report their results; 102 normal new-born infants were examined. The blood pressure the first day after birth averaged 43 mm. of mercury. Up to the third day, blood pressure rose relatively rapidly. From then on the pressure increased more slowly but steadily until the end of the first month. At the end of the first week it was 60, at the second, 70 mm. of mercury. At the end of the first month the pressure averaged 82 mm.

The Differential Diagnosis of Fetal Hydrops Universalis.—Kafka states that this condition has heretofore been diagnosed only during or after birth. As the general dropsy of the fetus, and especially the large quantities of fluid in the abdominal cavity, lead to a considerable enlargement of the maternal abdomen, the diagnosis in both pregnancy and birth was usually hydramnion. There seemed to be no way of telling whether the free fluid was within or without the fetal organism. But an early recognition of fetal dropsy is important. Kafka made the observation in a clinical case that the heart sounds of the fetus, which in marked hydramnion are notoriously weak—in fact, often imperceptible—could be heard with particular clearness at all points of the uterus. At birth the child presented hydrops universalis. The abdomen was 40 cm. in diameter and seemed filled with fluid up to the thorax. There was marked edema of the extremities. The physical explanation of the phenomenon is doubtless simple. Sound is more readily conducted through solid bodies than through liquids. In hydramnion there is a more or less extensive layer of amniotic fluid between the child and the uterus, whereby the heart sounds are muffled or even obliterated. In hydrops of the fetus, the body of the child lies close to the stretched wall of the uterus. The distended uterus occupies a large part of the abdominal cavity and the taut abdominal walls constitute a favorable medium for the conduction of heart sounds.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 22, 1921, **1**, No. 4

*Diaphragmatic Eventration. D. J. Steenhuis.—p. 400.
*The Gaseous Interchanges in Rowers. M. N. J. Dirken.—p. 404.
*Subcutaneous Injection of Oxygen. W. M. Naessens.—p. 410.
*Hysteric Attitudes. J. F. O. Huese.—p. 413.
Dermoid Cyst Complicating Appendicitis. J. M. M. Indemans.—p. 415.

Diaphragmatic Eventration.—Steenhuis reports a case in which an evidently congenital slit in the diaphragm has caused such slight disturbance that operative treatment has not been required, although quite lately the left half of the diaphragm shows increasing insufficiency. In another case the man was exhibited at so many different clinics that he finally developed a roentgen ulcer on the back.

The Gaseous Interchanges in Rowers.—Dirken reports the results of systematic study on forty occasions of four students training for a rowing match.

Subcutaneous Injection of Oxygen.—Naessens has applied this treatment in twenty cases of children with pneumonia. The results are most striking when there are dyspnea and cyanosis, but they are good likewise even without this. The oxygen serves apparently as a stimulant and as an antitoxic adjuvant. No alarming incidents were ever witnessed, while in some cases the effect seemed an actual resurrection. He remarks in conclusion that this subcutaneous injection of oxygen has proved useful in so many pathologic conditions that the list must make the mouth water of a manufacturer of patent medicines.

Hysterical Attitudes.—In one of the two cases described the hip has been drawn up so that the young woman has been bedridden for five years since an appendicectomy.

Acta Chirurgica Scandinavica, Stockholm

Jan. 20, 1921, **53**, No. 3

*Actinomycosis of Salivary Glands. G. Söderlund.—p. 189.
*Detachment of the Head of the Femur. H. Abrahamsen.—p. 230.
*Cultivation of Nerve Tissue. P. B. Henriksen.—p. 265.

Actinomycosis of Salivary Glands.—This is Söderlund's fifth publication on primary actinomycosis and calculi of the salivary glands. He describes four cases here; three in the submaxillary gland and in the parotid and cheek in one. In all there was diffuse, inflammatory enlargement of the entire gland, relatively painless. This is characteristic of ductogenous actinomycosis of these glands. When secondarily involved, only the part of the gland invaded shows the lumpy tumor. Including these cases, there are now on record ten cases of submaxillary and seven of parotid gland actinomycosis anatomically confirmed, but probably certain cases of sialolithiasis and of Küttner's tumors belong in this category. The primary focus is often small and limited to the excretory duct at first. When this small focus is excised, the inflammatory swelling of the whole gland generally retrogresses under potassium iodid, with or without moist heat. There is no need to excise the tumefied gland. A calculus in the excretory duct, containing actinomycetes, is found in some cases; the tumor subsides after the duct is cleared out or the small abscess around the scrap of grain is drained. (In German.)

Separation of the Head of the Femur.—In Abrahamsen's four cases of epiphyseolysis of the head of the femur, the contusion had been comparatively insignificant. One child of 10 did not experience any pain at the time or during her play and exercise later; limping was the only symptom. One girl of 13 heard and felt the cracking at the accident. In two of the cases a second contusion probably completed the epiphysiolysis. The nature of the disturbance had not been suspected in some of the ten cases of the kind in which he was called in consultation during the last two years. Even radiography may not clear up the diagnosis. The experiences related and the findings in eleven cases of alleged idiopathic coxa vara seem to demonstrate that separation of the epiphysis is probably the primary cause of coxa vara in all cases, the causal contusion or damage from some sudden movement not having been noticed at the time. Radiography is indispensable after every contusion of the hip with symptoms, even if no more than a slight tendency to limp. Reduction and a Lorenz-Löfberg bandage should follow at once when the epiphysiolysis is discovered, even in old cases. If the head is not restored to place it becomes much deformed. (In French.)

Cultivation of Nerve Tissue Outside of the Body.—Henriksen discusses what this has proved in regard to regeneration of a severed nerve, reporting his own extensive research, with twenty-seven fine photomicrograms, most of them in colors. (In English.)

Hospitalstidende, Copenhagen

Jan. 5, 1921, **64**, No. 1

*Action of Visible Rays on Temperature. C. Sonne.—p. 1.

Measurement of Temperature Action of Visible Rays.—Sonne has been investigating the effect on the temperature of the deeper tissues and of the body in general from the visible heat rays. The work issues from the Finsen Light Institute. The tabulated details show that the temperature is higher in the depths than at the surface after exposure to the visible heat rays. With the ultra-red rays, the reverse occurs, the difference averaging 3.2 degrees C. less than at the surface. With the visible rays there was an average increase of 1.6 degrees above the surface temperature. Experiments on guinea-pigs showed further that while the skin temperature was much higher under the action of the ultra-red rays, the temperature of the body as a whole was 3 degrees higher under the action of the visible rays. Blisters developed sometimes on the shaved backs of guinea-pigs after exposure to these ultra-red rays for thirty minutes, but this never occurred with the visible rays under the same conditions.

Ugeskrift for Læger, Copenhagen

Jan. 27, 1921, **83**, No. 4

*Fluctuations in Weight with Pulmonary Tuberculosis. C. F. Møller.—p. 105.
Experiences with Carrel-Dakin Technic. C. de Fine Licht.—p. 119.

Fluctuations in Weight of the Tuberculous.—Møller is chief of a mission tuberculosis sanatorium in southern India, and he compares experiences there with those reported from Sweden and Finland in respect to fluctuations in weight. They seem to occur alike in these three countries from week to week, but in the hot climate, conditions were worse in summer and better in winter, which is the reverse of what is observed in northern Europe.

Feb. 10, 1921, **83**, No. 6

*Pathogenesis of Sciatica. H. Jansen.—p. 191.
Film for Roentgen-Ray Work. P. G. K. Bentzon.—p. 198.

Sciatica.—Jansen says that, besides sciatica for which neuritis, pressure on a nerve or nerve root, chilling or toxic action is responsible, there are groups of cases in which muscular strain from overexertion or from some unusual attitude—assumed to ward off pain elsewhere—may be incriminated. A muscular effort may induce lumbago and, in the severer cases, sciatica. A tendency to anesthesia, paresis or loss of the Achilles reflex suggests a neuritis origin. When sciatica persists, it is either secondary to some persisting cause or it has become a traumatic neurosis. In this case treatment by suggestion is indicated, but in all cases of sciatica, the neurasthenic element must be kept in view. Bromids are useful on this account, and this explains why recovery may follow the most widely diverse treatments. Injection of saline has an immediate but transient sedative action. Heat and massage aid in relieving the muscular contractions and cramps; the massage is applied to the lumbar and gluteal region. Rubbing and other stimulating measures applied to the course of the nerve are worse than useless. Atrophy of muscles must be combated by massage and the function of the limb restored by exercise and correction of faulty attitudes.

Upsala Läkareförenings Förhandlingar

Feb. 1, 1921, **26**, No. 1-2

Optic Illusions from Spreading of Light. H. Ohrvall.—p. 1.
Influence of Reduced Atmospheric Pressure on Isolated Heart of Frog. J. H. Hindmarsh.—p. 25.
*Vaccine Therapy in Epidemic Paradysentery. W. Karström.—p. 57.
*The Respiratory Phenomena with Pneumothorax. H. Laurell.—p. 83.
*Indiarubber Ball Sound After Cough. G. Bergmark.—p. 127.
*Function of the Corpus Luteum. J. Näslund.—p. 157.

Vaccine Therapy in Epidemic of Paradysentery.—Karström relates that about four years ago an epidemic of febrile diarrhea developed at two Swedish sanatoriums and in the adjoining region, and the epidemics returned the following summers until stamped out with an autogenous vaccine. The paradysentery bacilli involved were of the Y and the Kruse E bacilli types. In 1919 about 150 persons were treated with the vaccine, and nearly 100 the following year. It proved practically harmless, and seemed to confer a brief immunity, but the benefit from it was most evident in curing the chronic cases.

Respiratory Phenomena with Pneumothorax.—Laurell's explanations of the phenomena observed conflict with those generally accepted.

Rubber-Ball Sound After Cough as Sign of a Cavity.—Bergmark found Bruce's india-rubber ball sound, or double cough sound, as he prefers to call it, in every case of cavity in a lung. It was distinct in fifty-six of 130 patients in the third stage of pulmonary tuberculosis, and in twenty of thirty-nine cases in which the cavity was confirmed at necropsy. It was distinct also in sixteen of twenty-five cases in which the physical findings suggested a cavity. In twenty-five cases of positive rubber ball sound, symptoms of a cavity were evident in twenty-three. On the other hand, adhesions of the layers of the pleura may exceptionally induce this sound, as he found it in one of seventy-seven cases of bronchopneumonia and in one of forty-seven cases of croupous pneumonia, both with pleuritis, and also in four of forty-seven cases of pleurisy.

The Corpus Luteum.—Näslund has been studying on rabbits and white rats the effect of corpus luteum from slaughtered cattle as modifying gestation and the development of the fetus. The effect of large doses seemed to be to prevent gestation, but did not modify it if already under way.